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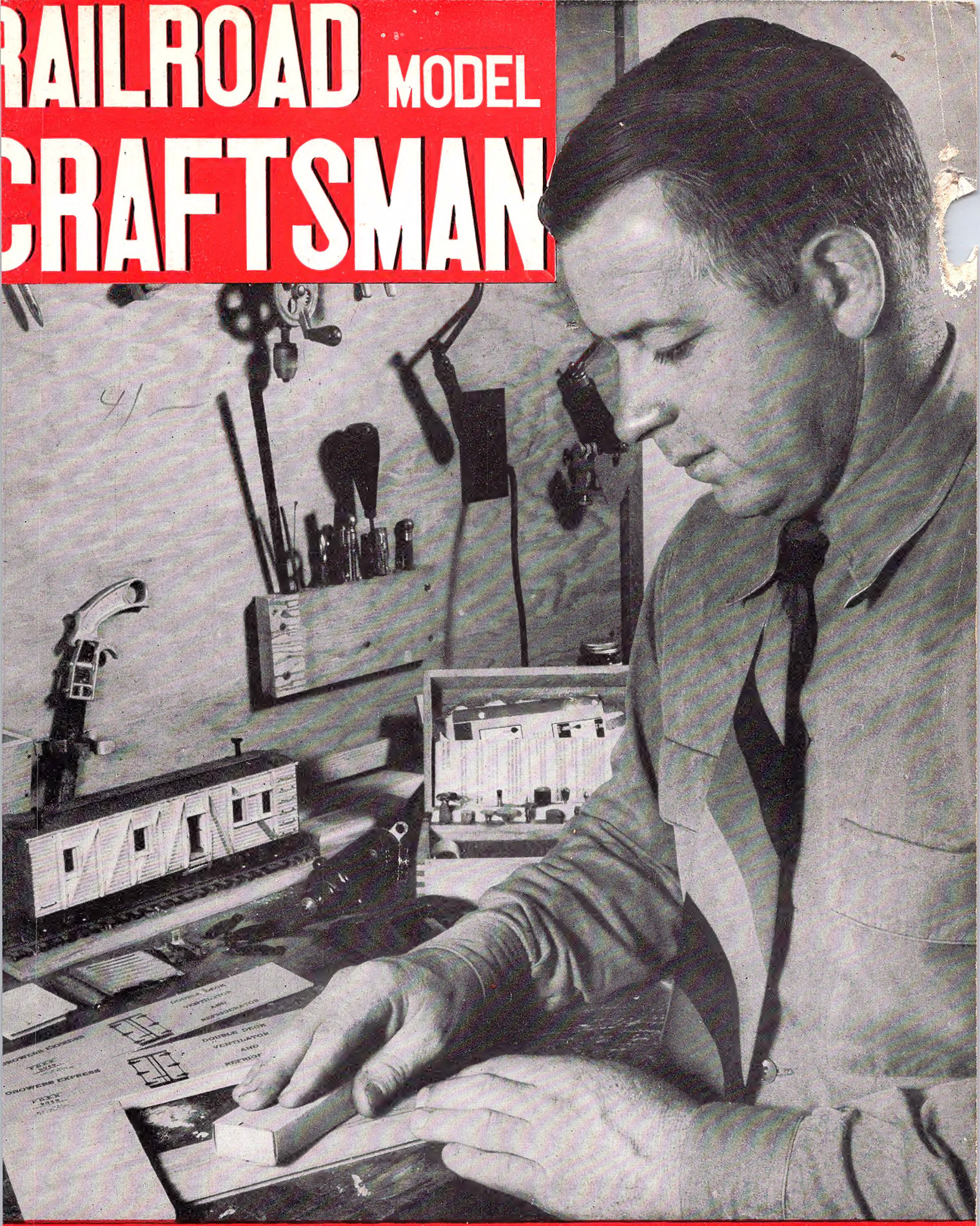

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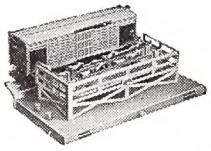

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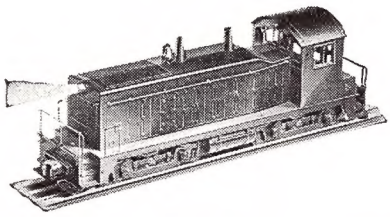

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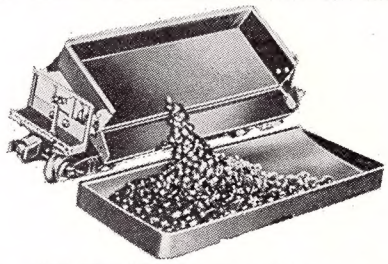

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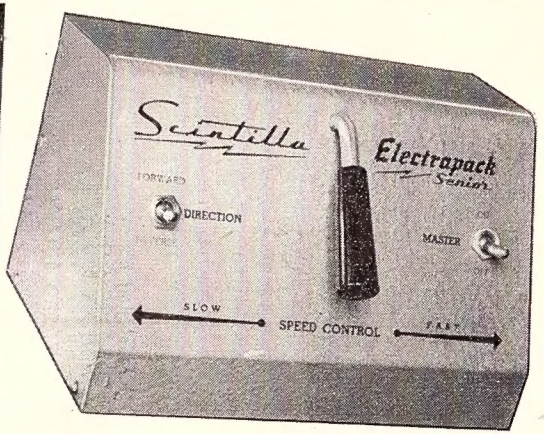

YOUR PICK OF SIX FINE POWERPACKS

Top, Left—THE DYNAPACK—Designed for up to five HO or TT gauge locos or three S or two O gauge. Directional and speed controls on panel. Push-button-reset circuit breaker. Extra circuit provides 16 volts of AC for accessories. Rated at four amps DC or 12 volts. Input 110 volts AC. Price: $24.75.

Tope, Center—THE CUSTOM CLUB—A new heavy duty power source and control panel combination, and a new idea. Avaliable with two, three, four or five DC circuits plus one AC circuit. If less than five DC circuits are stipulated, holes are covered with matching plugs which may be tapped out as additional controls for extra circuits are added when your layout grows. Total available power: 20 amperes. Panel includes voltmeter, ammeter, block indicator lights, overload signal, speed controls, master switch, circuit breaker, directional controls. Prices: For HO gauge, with controls for two blocks, $79.50; for O gauge, two blocks, $82.50. Each additional HO block control $10.00; O gauge $11.50. When ordering specify gauge so proper controls are furnished.

Top, Right—THE ELECTRAPACK SENIOR, with fluid-drive-smooth Plenaflex control, automatic circuit breaker, thermic cooling, directional control, sloping panel. Perfect for beginners operating up to three HO or TT locos. Twelve volts DC plus 16 volts AC. 110 volts input. Price: $19.75.

Bottom, Left—THE MULTIPACK—Will handle as many as three O gauge locos and simultaneously energize 16 volt AC accessories. TWO DC circuits, TWO directional controls. Three indicator lamps, master switch, push-button-reset circuit breaker. Input 110 volts AC. Price: $32.50.

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Bottom, Right—THE MULTIPACK SENIOR is made for those who already have a control panel. Provides ten amperes of DC from a single circuit plus 16 volts AC. Has master-switch, circuit breaker and illuminated on-off indicator. 110 volts AC input. Price: $33.00.

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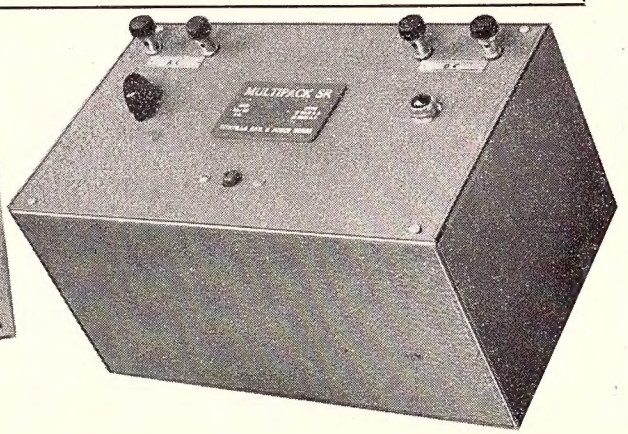

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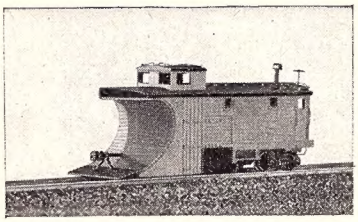

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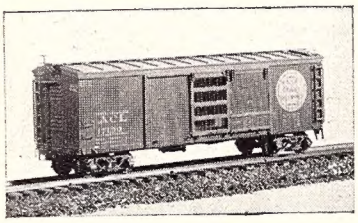

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Vol. 18, No. 8 JANUARY, 1950

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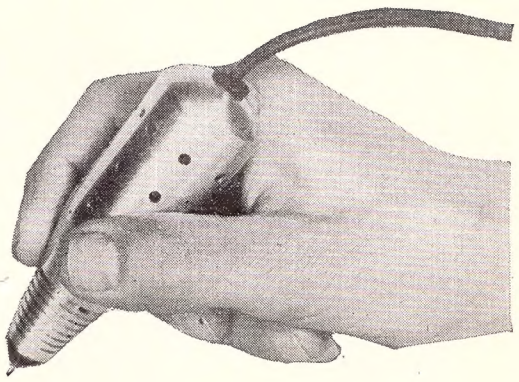

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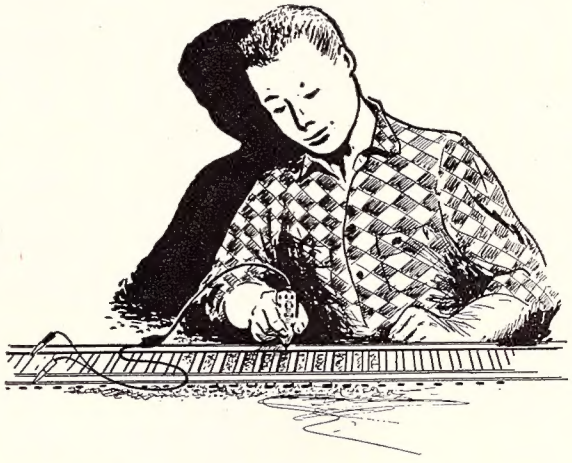
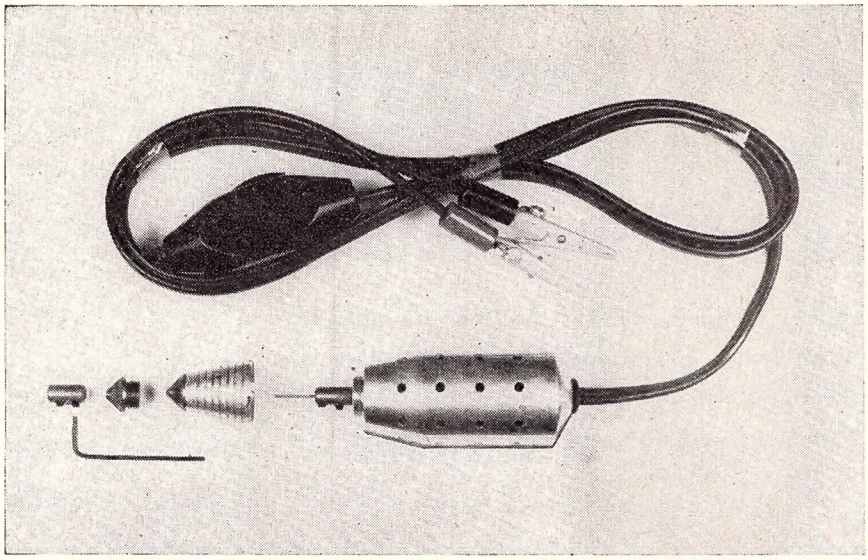


Regardless of locality, repairs can be easily made, without the use of a long extension cable. No danger of knocking over scenic details as this tool can pick up power anywhere along the right-of-way. Just snap the clamps on your rails, and you are ready to start work.



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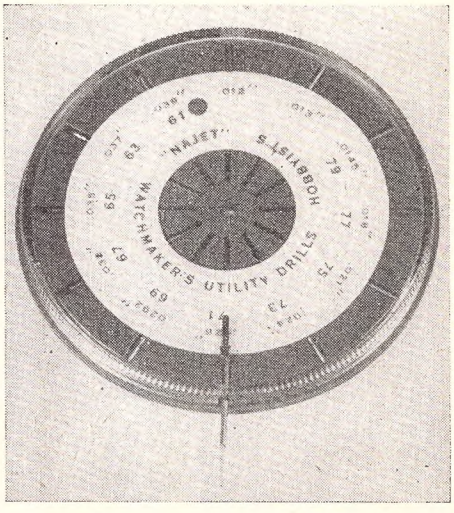

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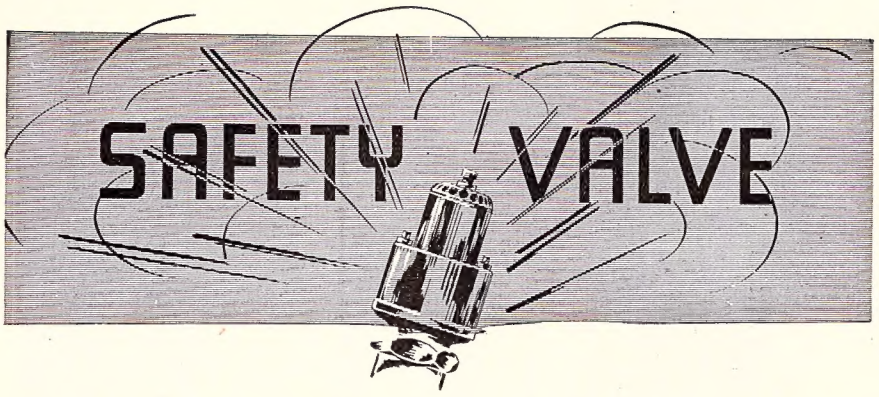

We Had Him Guessing

While thumbing through your November issue I would have sworn you miscaptioned the top illustration on page 29. On first glance that looks exactly like a model scene. That one photo as well as the one on opposite page gave me many ideas that can be put into actual practice on my own O gauge road. Using the plaster method and by careful painting, the rock strata can easily be modeled and the cluster of homes in the background will be painted on the wall in rear of my layout. I'll follow the photo as closely as possible with the exception of less trackage—my space is fairly limited. When this section is completed, I'll send in a photo. . . . *Bill Samuels, Chicago, Ill.*

A Little Help Wanted

I have read with interest your recent articles on Narrow Gauge Railroads and think the subject very interesting for modeling purposes. But how can a fellow like myself with limited space include narrow gauge trackage on the present layout. My layout is small, four by seven, and to justify this space, I must have all trains and equipment negotiate all trackage. I have considered adding a third rail to take care of narrow gauge equipment but I can't work out the details to such a point where it will look realistic. I have seen this done in prototype operation for short sections of track where the narrow gauge meets the main line. I'd like to get your readers' ideas on such a system or possibly this method is already in operation. . . . *P. Friedmann, Brooklyn, N. Y.*

He's a Mind Reader

It would seem to me that the advertisers of model railroad equipment would want readers to know in what gauge their product is offered. Instead they manage to make the gauge hard to find, or leave it out all together, imagining that all railroad modelers are mind readers.

Might add that your magazine is number one with me. I have every issue since start of publication. . . . *G. L. McIver, Springfield, Oregon.*

Doing It The Hard Way

I THOUGHT the article on Gingerbread in your November issue was very enlightening and hope you will continue to publish more of this type material. Due to space limitations, the few structures I have built are all well-detailed. I take my time and do a complete job on each individual building. Previously, however, when a building called for gingerbread it was a major operation for me. I used a piece of bristol board the exact length of structure, folded it in half and then proceeded to cut out a design along the double edge. In this way the gingerbread had a balanced appearance on either side and not too much skill was required in the process. After the design had been cut out, the entire bristol board was given a coat of thin paint, more than anything else, to act as a stiffener. When painting, care had to be taken so that the small holes would not be clogged and other detail lost. I was proud of this method and the results but I can see it was doing the job the hard way. Detail of this nature is very noticeable and gives the entire pike a realistic appearance. . . . *Donald Kruger, Easton, Penna.*

Model Builders Dream

We are up here for a fan trip over the Lehigh Valley Transit Co. lines. Coming up on the Black Diamond, I thought to myself that the Phillipsburg-Easton area would be a model builder's delight. Crossing the Delaware, my wife and oldest youngster almost together exclaimed that here was an excellent spot for photographs. Touring the hobby Shops of Allentown, I bought my November copy of M.C. and you can imagine my amazement upon reaching page 26. Your prototype articles are most interesting.

In another article about wooden coaches, you mention the B & M. Last month at North Station, I saw a diesel (A & B units) pull in with four dilapidated open platform wooden coaches. If a model rail did this his friends would hoot in derision. . . . *Joseph Mulligan, Jersey City 4, N. J.*

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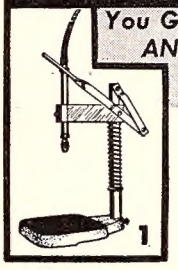

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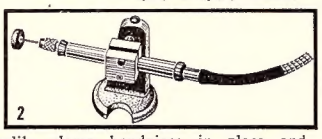

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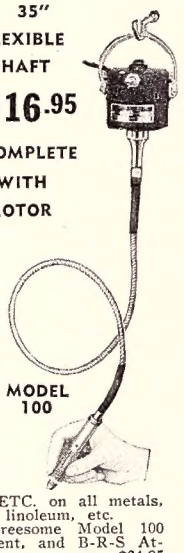

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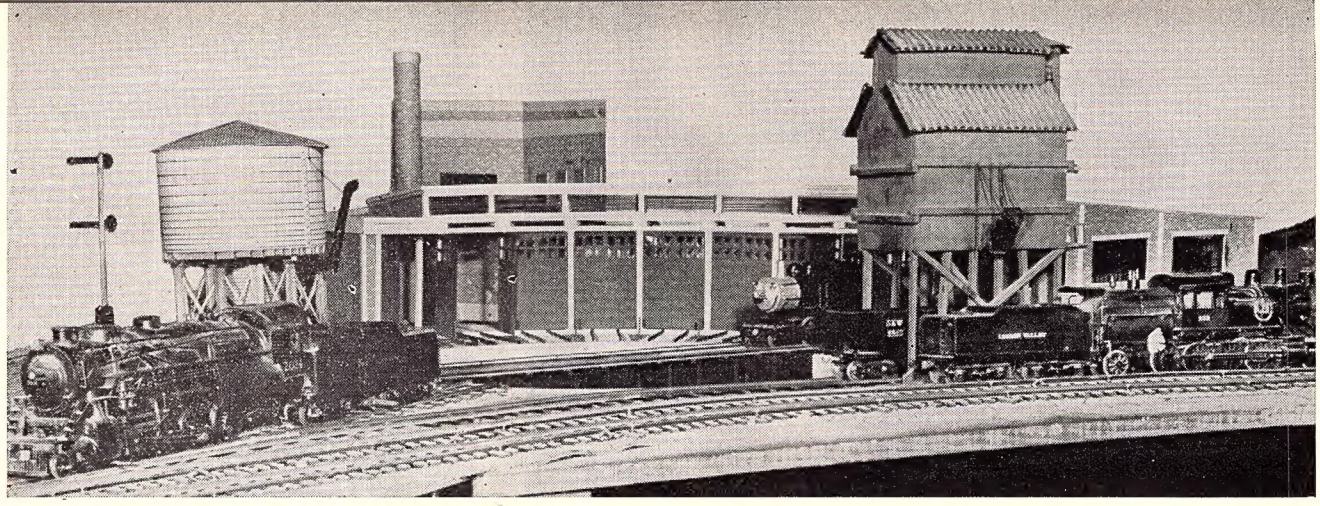


Photo by A. Q. Vogel

Having design trouble with your Model Railroad? Has it a realistic appearance? This article shows how to layout . . .

THAT BARE CORNER

by WARREN B. CRATER

ALL corners behind long curves cannot be covered with mountains effectively. One such treatment on any layout is plenty. Many ideas have been suggested and worked into such corners from time to time and each seems to fulfill the purpose. None of these can be criticized except where there are two corners treated alike on the same pike.

One corner of my O gauge layout, the *New Jersey Terminal,* is somewhat different from the usual run since the main line tracks go through the wall at the corner and the curve is part of the High Branch and its passing siding. The Junction and yard at High Bridge lends a suggestion. A round house should be here with all of its related facilities—just a turntable with water tank would suffice where space is quite limited.

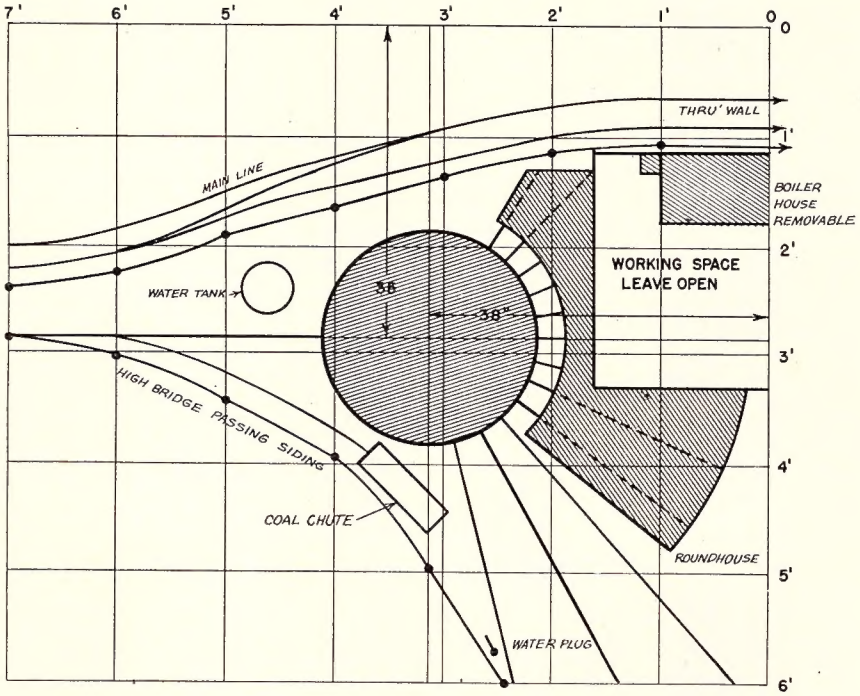
The first job on such a corner is to measure available space and lay it out on paper. Graph paper held on a clip board is very handy for this. The space is then transferred to scale on the drawing board or used as is and a tentative or detailed layout worked in. I used the latter method with satisfactory results.

While I am describing how I filled my own space, it is not intended as a plan for the reader since no other space will be an exact duplicate. Rather, this article is intended to suggest methods which will make your own *odd corners* a suitable auxiliary to your layout.

Plans have appeared in the *Craftsman* from time to time for the several component parts of Engine Terminals. Invariably these must be altered to fit available space. We will not use these here but rather we will sketch and explain those that I have used and how alterations were made.

The turntable is the connecting link between the radial tracks, whether in round house or open, and the rest of the railroad. Prototypes vary in length. Your own choice should be made to accommodate your longest engine. My turntable will not take several of the main line engines but will turn all yard and branch locomotives. It is necessary to provide radial tracks to store all engines which must lay over at this point and, where the width of the layout exceeds arm length, provide working space as a permanent opening or a removable piece of scenery. If you plan your layout accordingly, you will avoid trouble later in both operation and maintenance.

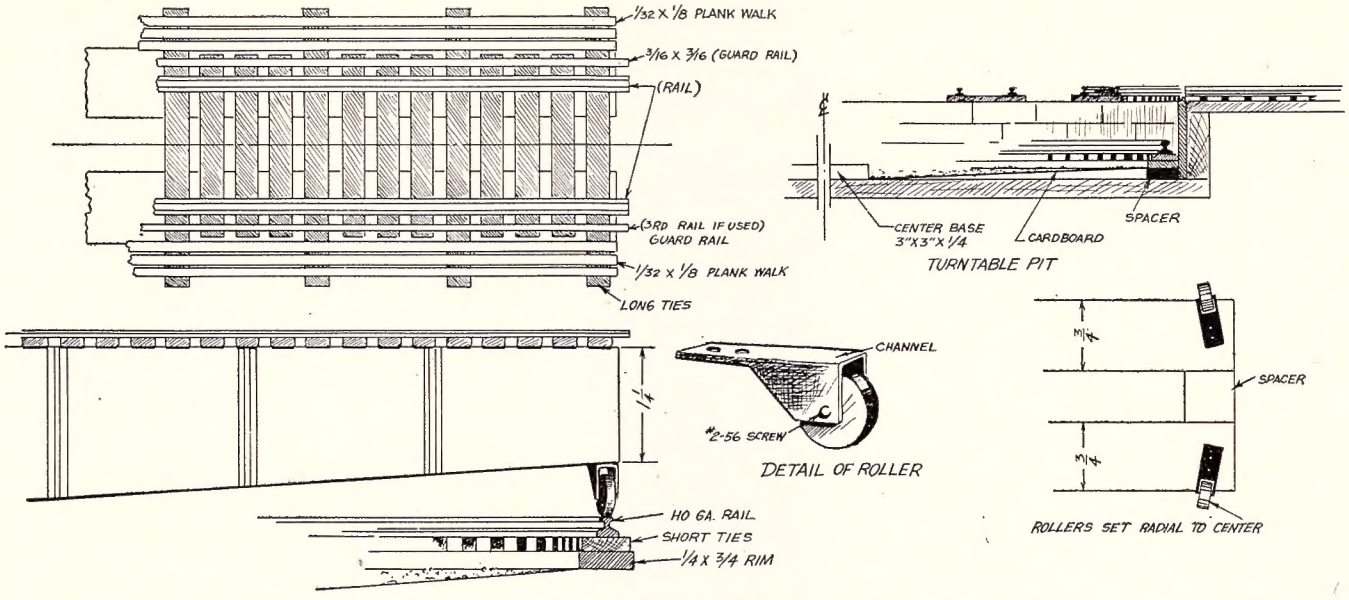
The sketch shows my available space as measured and put down on graph paper. As my longest branch line engine



When planning your model pike or when making additions, first measure available space, then layout on graph paper. Desired facilities are then tentatively located in the free space as shown in sketch.

required a 22" turntable, this was worked into the diagram with the lead track to switches on the passing siding in each direction. Next an opening 19" x 25" was located for maintenance and a scale door and building end were laid out on paper. With these dimensions made definite, it was quite simple to lay out a tentative roundhouse in the space. A nine stall house was found possible by arranging two short stalls next to the main line, then five blind stalls with ⅜" thick, large enough to include the pit and allow at least two inches on all sides. With compass or dividers, lay out a circle ¼" larger than the diagonal across opposite corners of the table. Provide for securing this outer rim in place. Carefully cut out this circle with compass or jig saw. Secure the rim permanently in the layout at height of track base. Cut a piece of cardboard which will be the side of turntable pit. Glue and brad to edge of pit in the rim and

Any door can be made of cardboard. Cut out window and panel openings. Cement cardboard in back for panels and cellophane for the windows. Window openings in the end and back walls, if used, may be made to fit the industrial windows printed on celluloid and available at the hobby shop. Brick building paper cemented on cardboard with an overlay of paper for the concrete parts is good material for this and many other structures. In all cardboard construction,



SKETCHES OF O GAUGE TURNTABLE AS BUILT UP BY AUTHOR

permanently closed doors and two full length stalls. The short stalls provide for the Goat and Inspection engines. The full length stalls will accommodate the branch line power and two radial tracks in the open add realistic flavor.

The turntable may be made of any firm grained soft wood. Use ¾" stock (in O gauge) for the girders and make spacers for ends and center so rails will be along center of girders to give spikes a good anchor. Angles and tees may be purchased or bent from tin plate and fastened with escutcheon pins to imitate rivets. Drill hole for ¼" brass rod through middle spacer at exact center for a pivot post. Use long ties extending both sides and spaced closer together than in normal track work. Spike the rail in place. Then the 3/16" x 3/16" guard rail may be cemented and spiked in position. Third rail, if used, should go on top of the guard rail and should be wired to pivot pin. The walk planks should be cemented to ties and railing, if desired, may be provided.

Two rollers should be fastened to each end to run on the pit rail. They should be placed radial to center pin and wired to running rail. Suggested method to make and attach these is shown in detail sketch.

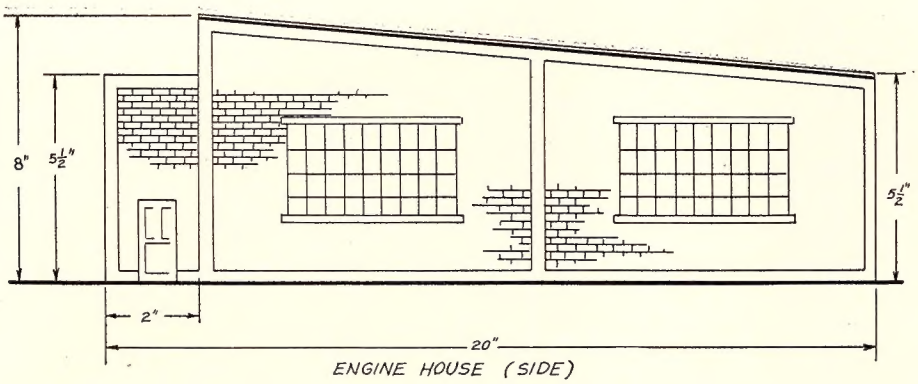
The pit itself should cause no difficulty. Cut a piece of plywood, preferably similarly secure the disk to become the bottom of pit. Provide wood braces under this with spacers at the sides to the rim. Cut a rim ¼" x ⅜" and secure to bottom. Cut a disk of cardboard and cement to bottom at center and to rim around the edge. This slopes to the center for drainage. Another ¼" x ¾" rim goes on top of this at the edge adding short ties later. A center base of ¼" wood 3" x 3" goes in the exact center. Use pivot pin as a guide. A 3/16" x ½" rim goes around the pit at ground level. Now paint the entire pit a flat French Grey to represent concrete.

Now lay ties and pit rail, also wire the rail to the running rail of a connecting track. Provide a spring contact to the pivot pin and wire to the proper switch or push button of your control panel. A gear or pulley may be used for motor or crank to turn the table.

With the number of recent articles in the CRAFTSMAN on round houses, I feel that it is unnecessary to go into detail on that subject at this time. However, sketches of the track doors and end wall are given. Where the doors are to be permanently closed to cover blind stalls because of the work space opening, each pair may be constructed as a unit. Where doors are to be permanently open or actually working, each door will have to be built separately. wood stiffening strips should be cemented to back and at corners.

When the roundhouse was finished, the hole where the main line goes through the wall was still very much in evidence. A boiler and power house was built using same construction as for the round house. (See sketch for dimensions.) This is placed on brackets in the open work space and readily removable to permit maintenance to track. For the brick chimney, I used a paper tube from a roll of paper towels. Starting at the bottom end, I cemented a strip of paper ½" wide, then a strip 1" wide, then 1½" etc. around circumference of tube to build up a tapered effect. Brick paper is then cemented on the tube to the full height of our *chimney*. The taper looks right but the seam must be placed toward the corner where it cannot be seen. The rim or cap of concrete at the top was made by cementing a strip from the edge of the brick paper sheet.

Unless the road is all diesel or electric, locomotive water supply is necessary. Therefore, a water tank and one or more stand pipes or water plugs are necessary. Being pressed for time and having two interested and able teen-age sons, I have undertaken several short cuts. A Skyline kit plus one son has produced an entirely satisfactory water tank. Also sons and kits have increased the freight car supply



ENGINE HOUSE (SIDE)

to such a point that there are now workable numbers of all types of rolling stock —cars of every description designed for a variety of uses.

Coaling facilities run in several shapes and sizes. I am using a hoist and overhead chute, a gift from a friend. Locomotive sand is available at many engine terminals. Storage bins, a dryer and an over-head dry storage bin with pipe to permit loading, generally at end of coal chute, is the usual arrangement.

Other buildings in this section of the layout may include office, crew quarters, store house, oil house, tool house and locker rooms. There is no fixed rule as to which will or will not be included. These vary in the prototype as to local requirements and may also vary in the model as to space limitations.

In many prototype installations, old car bodies are used for some of these buildings. Box cars are used for oil or tool rooms. Coach bodies are used for locker rooms, crew quarters and even for bunk houses. You can take my word for it, I have slept in them when away from the home terminal. They are not pleasant to use, but they sure add flavor to the model pike.

The usual run of pole lines, lights on poles and on the buildings may well be included. Small sheds for fire hose or hose carts, a telephone booth or box on a pole at the main track switch will add local color. Then too, if space permits, small unpainted dwellings or shacks and board fences may be set close to the R H property.

These suggestions are all authentic as to prototype and I can show actual photos to any who do not believe it.

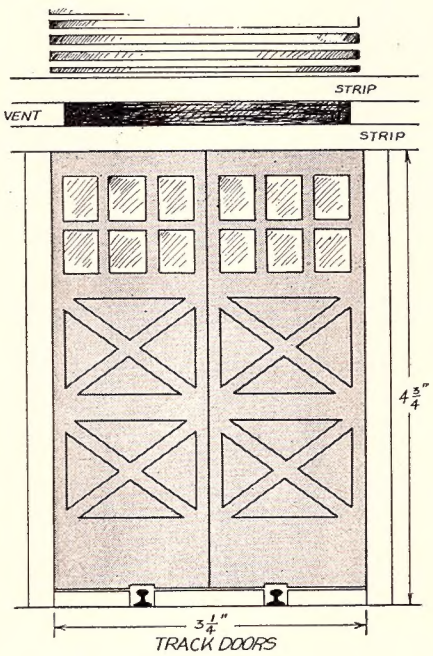
Since several versions of these facilities have been described in these pages during the past, it is not deemed advisable to describe their construction at this time.

I find that a background of wall board gives a good appearance. Paint it flat sky blue and add some white spots for clouds. Stop the plaster scenery about an inch from the board for best appearance.

The background is an important part of the layout and should receive its share of attention. A painted background should not be applied directly on the wall but on sections of bristol board or other composition in front of it. This will allow for the fact that you may want to move your railroad scenery, easily pack it up, take with you and build it up again in a new location. It can be truthfully said that the effect of the entire layout depends on a good background. A careful artist can, with a good selection of colors and proportions, render in a few feet of background several miles depth of scenery—fertile fields and roads in the foreground with mountains or cities in the rear, but all blending into one another in the correct perspective.

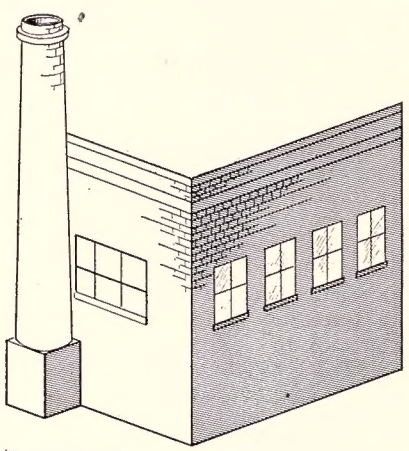
There is quite a knack in being able to fix up your scenery so that the actual modeled scenic effects around your tracks and the painted background blend well, but once done, it is a thing of extreme beauty and the peak of miniature railroad scenery. Such blending of background and actual scenery should be built up along the same lines as stage scenery in theatres where a field or other natural scenes are painted on the background in imitation of great distances.

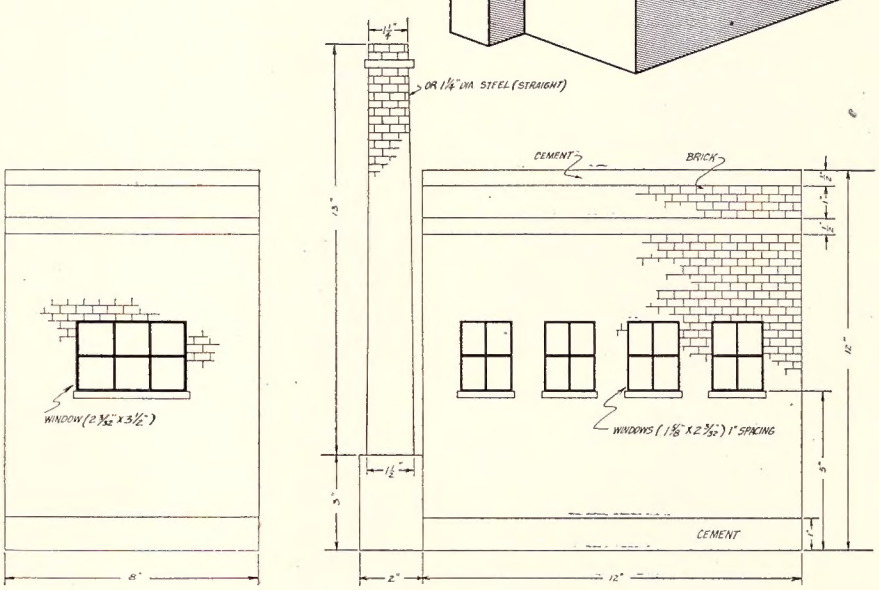
Actual scenery and structures before the background should be made carefully with proper attention to the small details that increase realism. For example, realistic roads, miniature figures in life-like poses and even smaller details on buildings. The true test of a good model railroad is to be able to step back a few feet, half close your eyes and imagine you are looking at an actual scene in life.



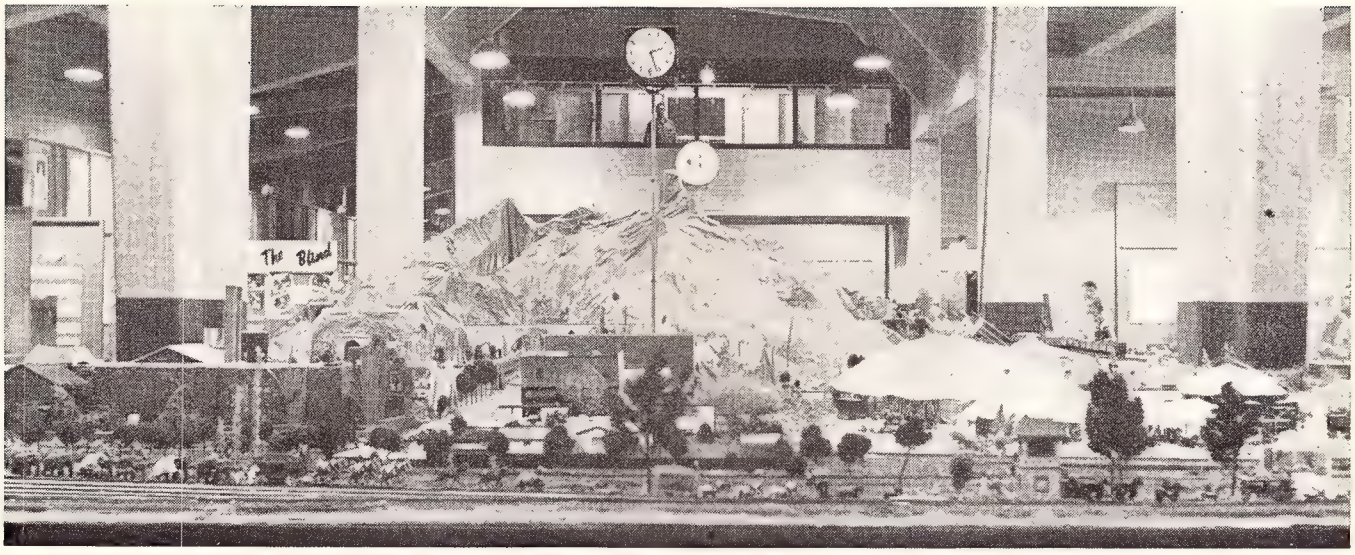
DETAIL OF ENGINE HOUSE DOORS

(Scale half size O gauge)





SIDE, END AND PERSPECTIVE VIEWS OF BOILER HOUSE



Scene at West End of Layout. Note the size of this pike and its surroundings, little wonder members of the Citrus Empire Club say . . .

It's Not the Biggest, But the Largest

by AUGUST KNIFF

LIKE all, model pikes, the Citrus Empire Model Railroad Club have reasons for beating their chests. With some, the beating may be caused by its size (big or small), the number of members (lack of or too many), amount of trackage (none to 10,000 feet) or the amount of equipment (one in building stage to 1000). The CEMR's chest is getting sore due to the number of people who view our Empire.

Way back in 1937, we too had a beginning. The writer was not a member at that time, but the club history can easily be traced through the old members together with the well-kept minutes that are now turning brown from California sunshine.

With a membership of ten men on the charter roll, a store was rented in Upland (five minutes by plane from Los Angeles) for headquarters. Either the store was too small or the gauge, "O" three-rail, was too large for the group.

In answer to prayer by the group membership, the Los Angeles County Fair Association offered unlimited space at the Pomona Fair Grounds. With a dirt floor and three rails to make sure of electrical pickup, the layout flourished for three years, 1939, '40 and '41. In the early part of 1942, the Army Brass decided the Fair Grounds would make a better Army Depot than a place to "play with trains." Naturally, the argument was all one-sided and in six hours of a Sunday morn, there was no trace of what once was considered a fine railroad.

In June of '49, Providence moved myself and family (with a couple of apple boxes of "OO") into this orange scented countryside with a trainsmoke background. The territory was hostile until I conceded to "O" gauge. My children now are "OO."

By this time, rumors began to sift that the Army was thinking of moving out, and the reorganization of Club plans were again in order. In February '47, the Fair Association approached us with their offerings and suggestions. Building and space were selected and tablework was immediately under construction. In March of the same year, the Army moved out and the following day the Citrus Empire moved in.

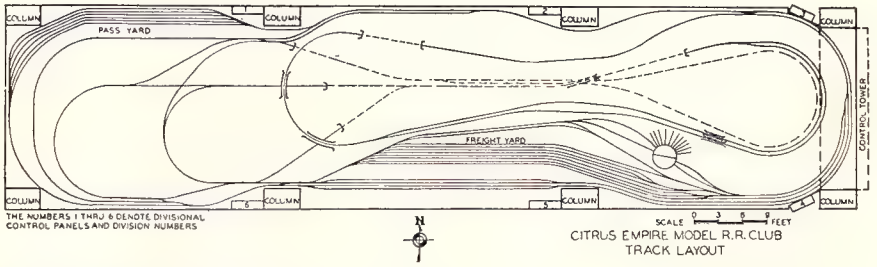
Acquiring a fine all concrete building with a floor of the same substance, our choice was two-rail. Today there are still many locos and cars that make good track *filler-uppers* because of this change. The space acquired measures 26 x 104 feet and is located in the grandstand building ground floor. It is ideal in relation to its location together with the fact that it draws the public like fire because of the activities surrounding us—horse racing and fun zone.

Upon reorganization, G. F. Harbin, once the largest jobber of model supplies and now a large retailer, was elected president. Under his continued firecracker tactics, the railroad soon took shape. There was a deadline to meet for our first showing and True-Scale (plug) was unanimously chosen as a time-saver together with realism. 2000 feet were quickly laid and by September, 1948, our first public showing was fairly complete.

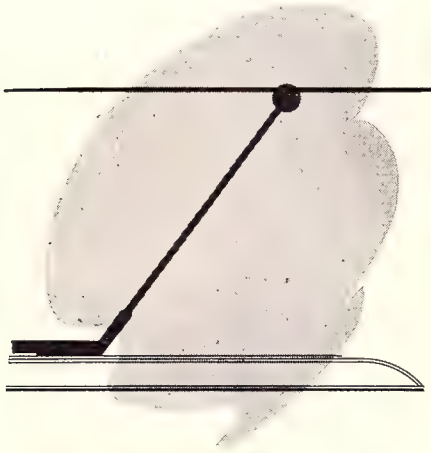
This show was under the supervision of our second president, Roy Hooper, an auto mechanic by profession but a dyed-in-the-wool model railroad electrician at night. It took plenty of night work to get her rolling, and eight hours previous to the show's official opening (2 A. M.) we saw our first train go completely round without a hitch. 12 to 13 hours a day and 17 days later, we fizzled out! Operation was perfect considering, trains held out perfect considering, but it is a job to make one's self hold out for this length of time considering the thousands of people who ask the same questions.

It's fun though. Under my supervision as prexy this year, we repeated the per-

(*Continued on page 37*)



Track layout of the Citrus Empire Model Railroad, an O gauge pike located in Pomona, Calif.



OVERHEAD WIRE

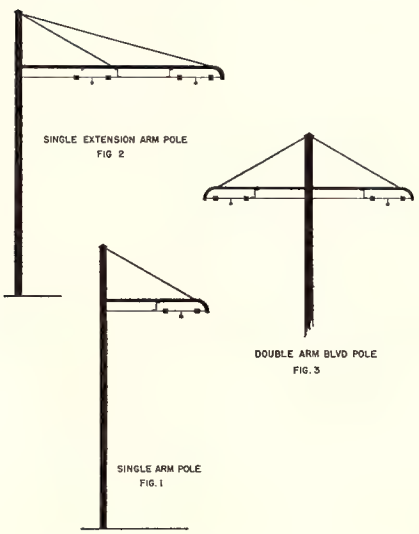
Stringing Overhead Wire can be an easy job if the methods described here are followed. It gives a realistic appearance to that interurban layout and will assure smooth operation.

by JOHN GERARD

WHEN the Birney is finally complete and has been gathering dust on the mantel for a month or so, the running bug usually bites the President of the newly formed traction empire. Of course, track must be laid which is straight forward enough, but how about trolley wire?

Installation of a satisfactory overhead system is essential for pole or pantograph operation. It should be done *right* and remain tight at all times.

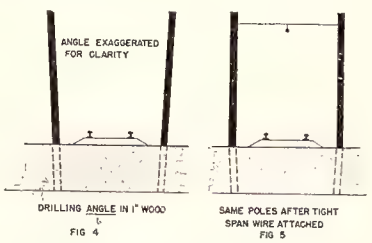
First, the components—wire and supporting poles must be able to withstand constant tension without gradual sagging. Steel rod has been found best for supporting poles, ¼" dia. for O gauge. When poles are placed in wooden bench



work, they are stiff enough to resist constant tension. In placing ¼" steel poles in 1" thick benchwork, a #2 drill provides a snug enough hole to hold pole securely.

Wooden poles can and are often used but care must be exercised to see that a wooden pole is not subjected to pulls from any direction unless pole can be guyed back opposite to force or pull exerted.

A simple layout is featured in Fig. 6 showing track and wire conditions and possible methods of stringing the overhead. Steel poles are set into a foundation in such a way as to be opposite track centers in both directions. These would be Poles at A,B,C & D and would best be straight, without arms. Using phosphor bronze wire, straight sections are then strung out connecting the poles. To suit this type of construction, a bracket made of brass or tinplate is slid on the wire before attaching to pole. This small piece is similar to Fig. 9. Purpose is to allow attachment of tangent section that goes around curve from say L to K on Fig. 6.



The four straight pieces should be anchored to corner poles A,B,C & D. This done, small Junction Clips, as they shall be called (Fig. 9), that are sliding on sections put up, are then located about an inch ahead of track curve. When wire is strung around curve, it follows a little inside rail center to present a squarer contact to trolley wheel which tends to cut across a wire squarely centered over track.

With junction clips in place, the curve section is formed by use of several pull-offs (Fig. 10) forming the wire in a series of short tangent sections roughly paralleling a circular curve. There should be enough to prevent the trolley pole from swinging back and forth when going around curves while maximum would be one every two inches. After sections are joined with a pair of long nosed pliers at proper places for connecting clips, the curve section of wire is attached to it on one end and then soldered to pull offs (Fig. 10) and finally attached to other clip at other end of curve. Fig. 6 will show possible locations of Pull Offs on a curve for short radius track of 12" or more.

At such places as the cross track running from O to P, a straight section is installed as with AB, except wire frogs are installed at M & R to allow for turn-off into car house. These frogs vary from the attachment clip in that it is a division of one running wire into two rather than one running wire coming into another.

These frogs (Fig. 11) are located generally half way between point and frog of switch so that when a car starts around a curve, the pole follows along the straight wire until body of car tends to pull pole around curve with enough force to cause it to pull over in the trolley frog and guide over onto the curve wire.

Placement of these frogs in relation to switch is quite important. Experience shows that if too close to switch points, cross pull of pole isn't sufficient to insure pulling over onto the curve wire or, when going straight and wires are nearly parallel, there is a chance the pole will go down the curve wire accidently. If frog is too close to switch frog, the angle pole must traverse may be so great as to cause it to pull off the wire.

The end of wire at trolley frog (Q) would pull the main wire (AB) out of line due to cross pull of curve section so a long pull off wire is attached at Q to Pole at S.

Up to now, the layout has only used straight poles, no arms. Along straight sections of track, poles of the single arm variety (Fig. 1) can be used with pole located on far side of track in relation

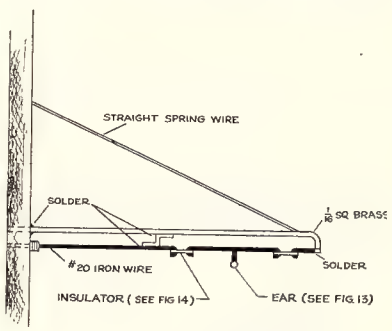


FIG.7 DETAIL OF SINGLE ARM POLE

to access so that rerailing (etc.) is easier. This type of pole can be used on long curves, six inch radius and on all straight single track sections on private right-of-way.

At points T, U and V, straight poles are located to anchor the open air cars house wires and also act as pull offs for

main line wire from B and C. This is merely a convenience and not necessary.

At points W, X & Y, attachment clips are installed for curve sections as they are at all other points on line where a curve starts. The only odd pole on the line might be one at crossing (P). Here the single arm pole was made to accommodate two arms at right angles to hold two wires. The right angle wire frog may be made as in Fig. 12 of brass of insulating material as the case may be.

The reader familiar with trolley wire installation may wonder why the loop was made with clips and short sections instead of one piece of wire using just pull offs at each curve and switch. It is believed that this form of construction for this type of small layout is better.

First, when one piece of wire gets a little slack for any reason, the entire wire work of the layout still remains taut.

Re-tensioning of a trolley system is a very complicated affair for when one

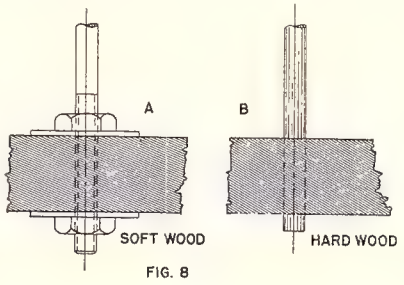


FIG. 8

FIG. 9 ATTACHMENT CLIPS

wire is tightened, another is usually loosened and it becomes a problem of every wire changing tension when others are taken up. Here, with each one independent of the other or a straight wire with connecting curves, a wire can be repaired or replaced in general without disturbing other wires.

The ideal situation of not working around scenery such as city streets or buildings was used for simplicity of explanation. In the case of curves in city streets, end poles such as A, B or O would have to be set aside out of direct line with track and, in this case, a wye bridle from both sides of street could be installed.

In general, overhead construction is easy if taken in small doses. Figures 1, 2 and 3 show three types of single pole suspension for use on single and double track right-of-ways. Poles with a direct cross pull of a span wire between them should be set at an angle (Fig. 4) so that strain won't cause them to converge at top. Fig. 5 shows the same two poles pulled up straight with a tight span wire in place.

On these poles, Fig. 7 shows a full size arm and two insulators on each side of the wire ear. These are necessary if blocks into which every railroad is divided are divided on wire. If poles are metal and double arm type, insulation must be installed between the two wires if they are to act independently.

Fig. 13 shows a method of making trolley ears which are attached to the span wire or pole arm and soldered to running wire. Figures 9 and 11, attachment clips and wire frogs, are made with

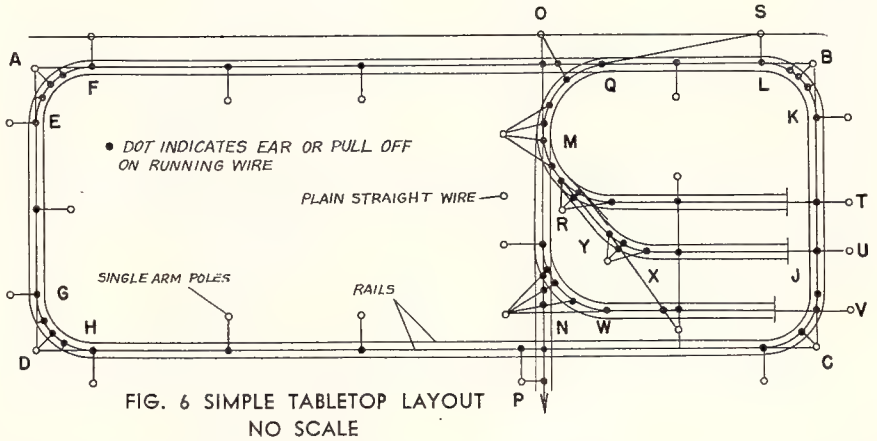


FIG. 6 SIMPLE TABLETOP LAYOUT NO SCALE

small flanges turned down so the pole won't run off the side. At ends, corners of flanges can be gradually rounded so a pantograph can ride over frog as well as a pole.

Fig. 12 shows a method of making a right angle crossing frog or any angle for that matter. Soft brass about 1/16" thick is put in a vice and a 1/16" slot is filed with edge of a narrow flat file. #60 holes are then drilled for wire. If an insulating crossing frog is desired, same can be done with insulating material.

Figures 8A and 8B show two methods of attaching poles to benchwork. If nominal strain is being put on pole, or benchwork boards are hard, a #2 hole will give a snug fit as in 8B. If wood is thin or soft, threading the pole and using a nut and plate washer, top and bottom, will hold pole in place. Where there is enough strain to cause 8A, wooden poles would be unsatisfactory under any type of attachment.

Here the example taken is very simple and by no means covers the overhead problems encountered in a large interurban layout. There should be enough here however to give the novice a starting jolt toward getting wire up and in operation. Where it is at all possible and it takes very little changing around in original construction the layout can be made usable for pantograph operation in addition to the trolley poles. The builder may want to enlarge someday and use pans himself or his friends may have pan-operated cars. It is always a good theory to make the road as flexible as possible.

For information about heights of wire and all other pertinent standards, refer to the NMRA Standards Sheets pertaining to wire and overhead information.

The method of stringing wire described here is intended to be a more practical departure for the model builder than an exact duplication of the prototype which is never really possible to obtain. Backbone and scale looking catenary are more complicated subjects and will be discussed at a later date. In the meantime, however, if there are any particular questions on the erection of overhead wire, its maintenance or use, drop me a note in care of the Railroad Model Craftsman, we'll do our best to solve your problem.

FIG. 10 PULL OFF PANTOGRAPH TYPE

SECTION "A-A"

FIG. 11 TROLLEY FROG

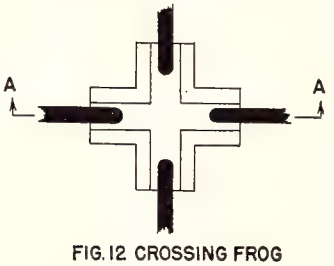


FIG. 12 CROSSING FROG

FIG. 13 TROLLEY EAR

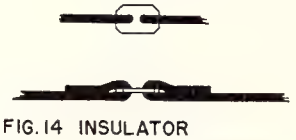
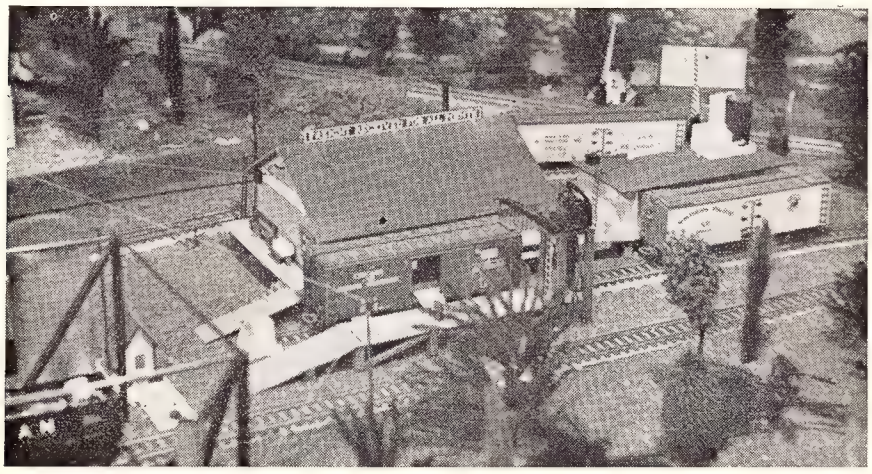
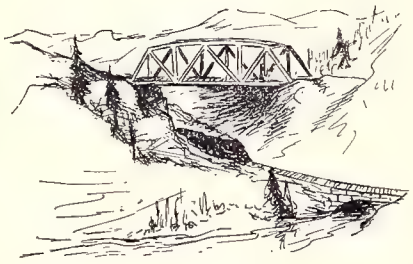


FIG. 14 INSULATOR



Scene from the authors HO gauge Pike. Note crane in front of freight station.



The South Dakota Central

From drawing board to reality in the short space of one year—that's the story behind this interesting HO gauge pike.

by WAYNE RIDDLE

ALTHOUGH I've always had quite an interest in trains, it wasn't until last year that I hit upon the idea of building my own model railroad. After studying all the railroad literature I could find, I readied our apartment basement for this project in HO gauge.

For the layout framework, I used two pieces of 4 x 6' plywood, ½" thick, put together to form an "L" shaped platform. This was supported by 2 x 4's for both vertical and horizontal braces. One side of the platform was attached to another 2 x 4 running along the side of the room.

With the platform up, I tried to plan the finished layout, however, many changes were made as work progressed. One of my local dealers advised a minimum curve of 17" so a cardboard template was made and the major curves sketched on the platform. Due to space limitations, other curves such as sidings were sharper than the recommended 17".

For one of the corners I planned a tunnel and naturally wanted a grade leading up to it. As the tunnel would be on a curve, the track foundation was slightly banked, as in the prototype. A carpenter friend fashioned two pieces of wood, 36" long, one going from about 1/16" to 1", the other from 1/16" to 1½" and when placed together, the two boards formed a realistic grade. These were formed into a smooth curve of 17" radius and nailed into position with a bridge before both tunnel portals.

Next project was a small creek, simulated by painting the platform with blue paint and laying clear cellophane on the paint while still wet. After trimming the edges of cellophane and leaving a few wrinkles here and there, I had a presentable creek. Later some small rocks and shrubs were added on the banks.

The laying of track came next. I used Atlas throughout and experienced no difficulty curving it to fit. Not wishing to go through long and tedious hours of laying ballast, I used ⅛" balsa wood for the roadbed. This was cut to size, edges rounded off, nailed in position and painted grey. Although not as good as the model ballast method, it makes a good looking roadbed, simple to lay.

After one loop of track was complete and in operation, I went to work on one section of the layout at a time, completing it even to scenery details. The hills were constructed entirely of mountain paper over a wire framework. I used a fairly stiff wire and, with the help of glue and scotch tape, the hills and rugged country gradually took shape. Several kinds of model trees and shrubs were used on this layout and for grass areas, I painted the area green, then spread on model grass while the paint was wet. I used this same procedure for the areas of dirt and gravel, using brown paint and model earth for the former and grey paint and model ballast for the latter. For a highway, I got a piece of heavy tar paper, cut it to size and nailed it down with small brads. This gives a realistic "blacktop" highway and is very simple to construct.

For the rolling countryside, I again stuck to mountain paper, moulding it by hand and using nails, glue and scotch tape to keep it in position. Waste paper and excelsior were placed underneath to form a solid base. There were many changes in ideas during this stage of construction—what started out to be a lake became a small coal mine and an oil well sprang up on space earmarked *Factory*.

Switches and wiring now came into the picture but with the help of a friend, this phase of construction went smoothly. To get remote control for the switches on the far side of the platform, I soldered a piece of ⅛" brass rod to the switch mechanism under the platform and ran this all the way to the near side of the platform. A couple "U" shaped brads held them up and I installed wooden handles on the ends. They work very well and are not difficult to rig under the platform.

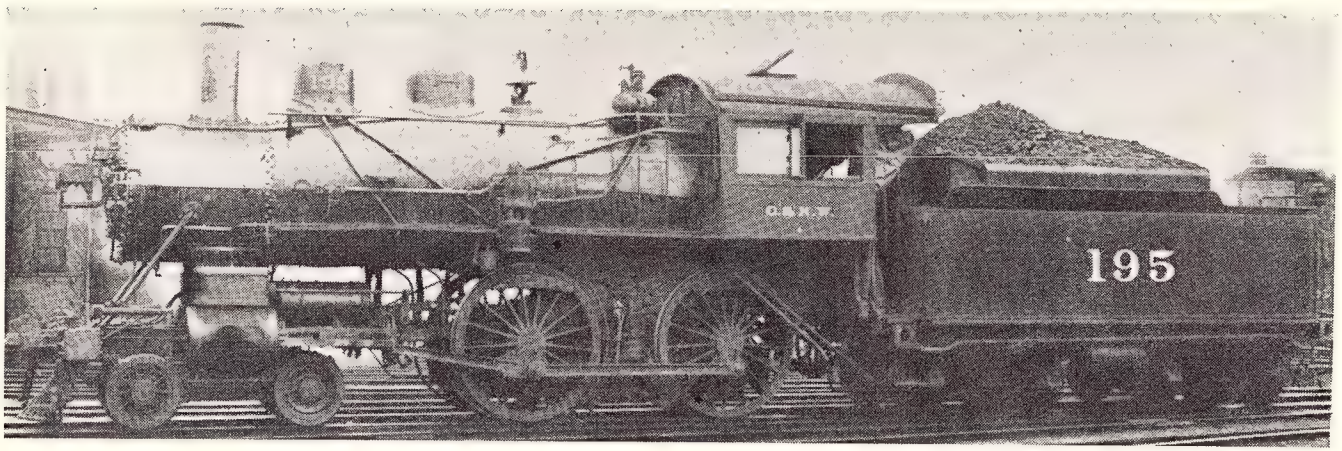
Most of the buildings are from commercial kits but I believe the overhead crane is worth note. For this I used one of Dale Newton's "Red Ball" overhead crane load kits.

After assembling the crane proper, I made the trolley from an HO truck (which exactly fits the crane). Cardboard made the craneman's cab and HO ladder stock, turned sideways, made excellent railing. For the crane runway, I set plain HO rail atop balsa supports with stops at each end. A hook from a toy wrecker car, and we were in business. Of course it won't actually run, but the crane and trolley can be moved to any position by hand and it looks very good on the layout.

Some of the cars were too light and kept jumping the track at switches and curves. This was especially true of flats and gondolas. I remedied this condition by adding small steel plates, 1 x 3½ x ¼" for weight. This extra *tonnage* works wonders with those light cars, it cuts derailments down to a minimum.

For power on this all-freight road, I started with a Dockside, than a Mogul. Later came a Roundhouse 0-6-0 switcher and a "Jeep" diesel. A tender was made for the Dockside so that it could perform "road work."

The South Dakota Central is an all freight road with varied switching operations. Currently plans are underway to add a Southern Division to the layout.

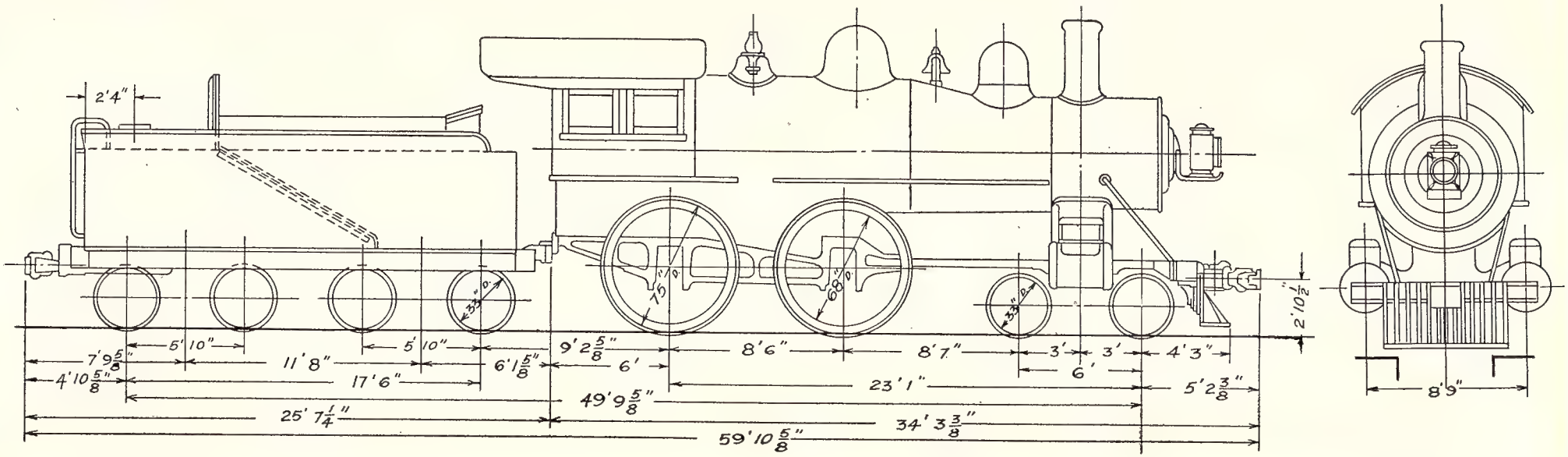


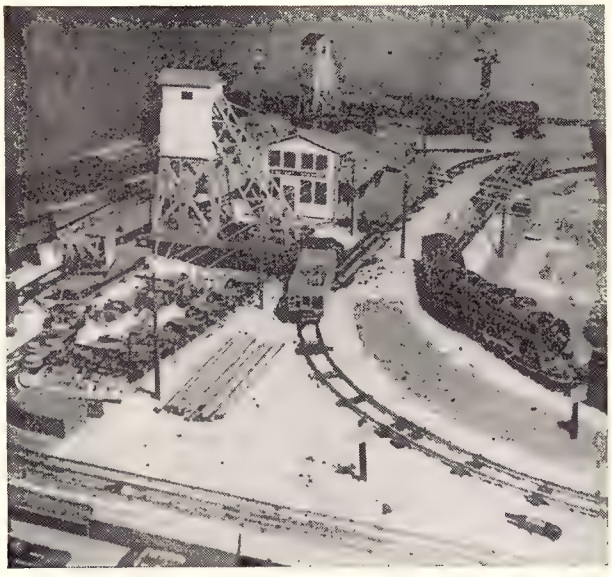
Courtesy Chicago & North Western Ry.

Built 1895	**Obsolete 1935**
Builder	**Schenectady L. W.**
Overall Height	**15′ ½″**
Center of Boiler to Rail	**8′ 8″**
Tractive Power	**18,700 lbs.**
Steam pressure	**190 lbs.**
Air pump	**1-9½″ Westinghouse**
Valve Gear	**Stephenson**

CHICAGO & NORTH WESTERN 4-4-0

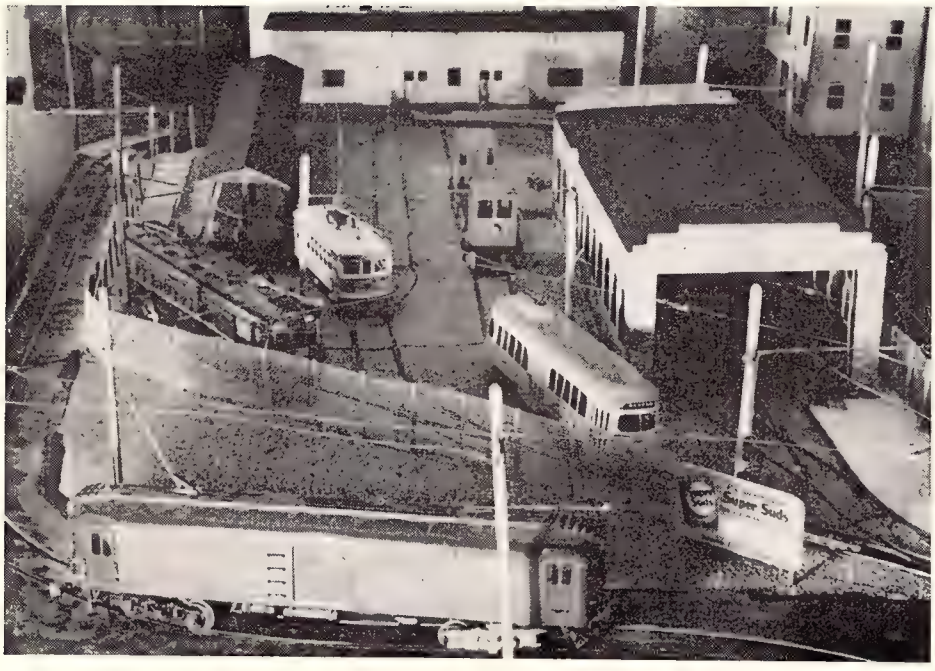
PLANS ARE SHOWN FULL SIZE FOR HO GAUGE



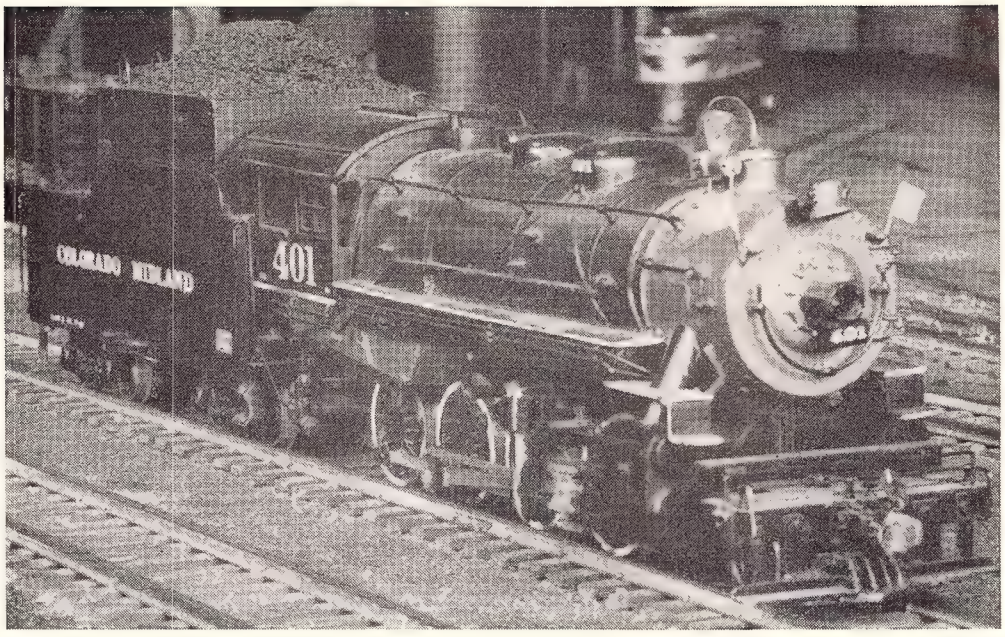


These interesting shots were taken on a layout built up by Howard Bugstrain of Berlin, N. J., a combination O and S gauge pike. The three hundred feet of track and eighteen switches are built on a platform 18 x 8½ feet and provide for interesting, diversified operation. Note the amount of detail included.

This O gauge Street Car was built from plans appearing in an old issue of the Craftsman. Prototype is the Public Service of N. J. however the model has been relettered for the Kee System, owned and operated by Bill Kee of Inglewood, Calif.



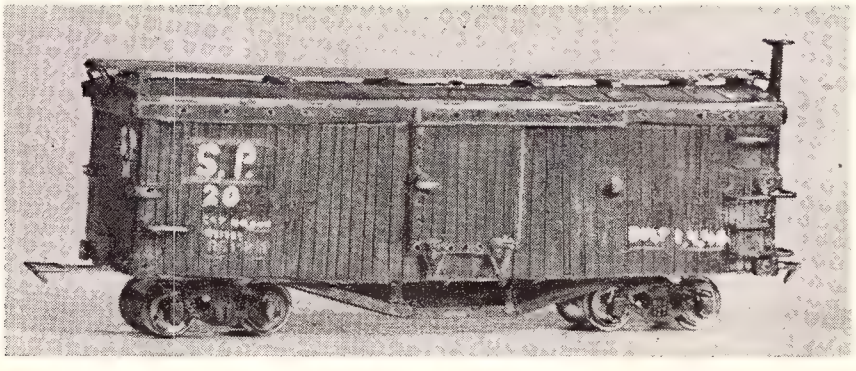
An early morning scene on the Old Colony Transit O gauge pike. The morning express is just leaving on its regular milk run. Soon to leave are a P.C.C., an Interurban combine and a Birney — in case of trouble, the Maintenance car is readily available (foreground). This is one of three loops owned by John Rockwell of Middleboro, Mass. The fence is window screening, the gravel is graveled roofing paper and the trolley wire is of unbraided outdoor radio aerial which has been well stretched by the weather.



On the ready track of the Colorado Midland Railroad, an O gauge pike built by members of the Denver R. R. Club. Engine 401 is used as mine hustler — note stack hood and extension coal boards on tender.

YOUR NABOR'S PIKE

SEND US YOUR PIX FOR $3

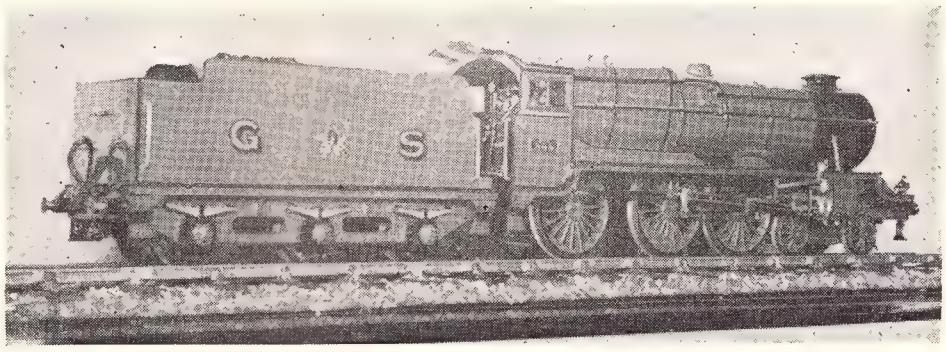


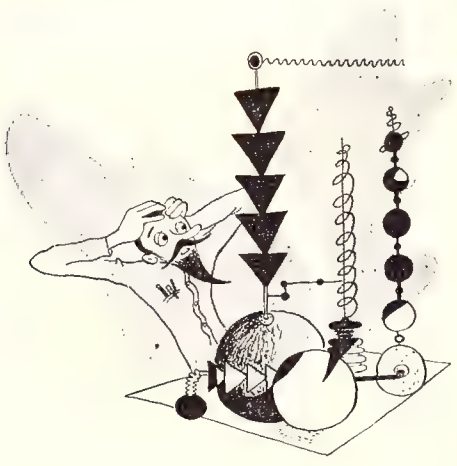
Old Rough and Ready, 28′ narrow gauge box car on the Bradford, Bonehill and Hengen Railroad. This HO model, waiting to be interchanged, is the work of Arnold Headlund of East Liverpool, Ohio.

WANT THREE BUCKS?

That's the minimum we pay for photos and captions appearing on this page. Photos are selected on a basis of reader interest and good photography—you are not limited to some super-detailed model so don't be bashful, your photo may be the next to appear on these pages. Please include all pertinent information regarding scale, materials and other interesting facts. Here's a good chance to let your "Nabor" see your work and make some easy money in the bargain. Send material to Picture Editor, Railroad Model Craftsman, Ramsey, N. J. Photos returned on request.

G.S.R. Express Loco built to a scale of 7 mm to one foot by C. L. Fry of Dublin, Ireland. Note the cab fittings, roller bearing axle boxes, fluted connecting and valve rods, engraved number and name plates —this detail denotes the work of an expert model builder.





Electronic Control

by JOHN NIXON

A system of automatic control for model pikes with which you can faithfully reproduce prototype movements.

In the November issue we discussed how the relay shown in Figure 1 will operate only when a characteristic high frequency voltage is placed across the rails. Let's call this an R. F. voltage (Radio Frequency) to distinguish it from ordinary AC.

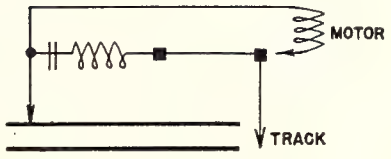


FIG. 1

In other words, in this particular set-up, *two* switches are depressed to make the locomotive move—one operating the relay and one supplying power to the motor.

Obviously the relay can be built either "normally open" or "normally closed," depending on its installation. For instance, in a loco, it appears to be preferable to have the relay "normally closed," (that is so that the locomotive will behave as a loco usually does) and for supplying power to a mobile crane it's a good idea to have the relay normally in an open position.

Now we're confronted with a problem —How to make the high frequency AC? Here's where we have to delve into the realm of electronics. And, I think that rather than become scared of vacuum tubes we can be introduced to them. And,

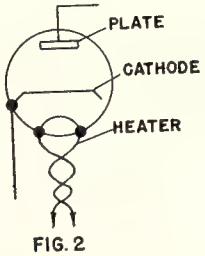


FIG. 2

I'd like to make a suggestion that the next time two bucks start to burn a hole in your pocket you buy a copy of "The Radio Amateur's Handbook." It's a good book and will give you lots of help in building your railroad circuits, it's well worth the price.

Now—vacuum tubes! In the simplest form, a vacuum tube is based around a thin filament as in an electric light bulb but with the difference that this filament is used for heating purposes and so is usually called the heater. It is placed inside a very fine metal tube which is coated on the outside with a substance which has the rather marvelous property of being able to emit vast quantities of electrons when hot. This metal tube is called the cathode. Surrounding the cathode is a metal plate called the anode or plate. The whole thing is placed inside a glass envelope which is then evacuated.

In diagram form, this tube is represented as in Figure 2.

This sort of tube is called a diode because it has two main electrodes.

If the vacuum tube is coupled to the battery in two different ways, two very different results are obtained. Take a look at Figure 3. Neglecting the small battery supplying the heater, it is seen that the only difference in the hookup is one of polarity.

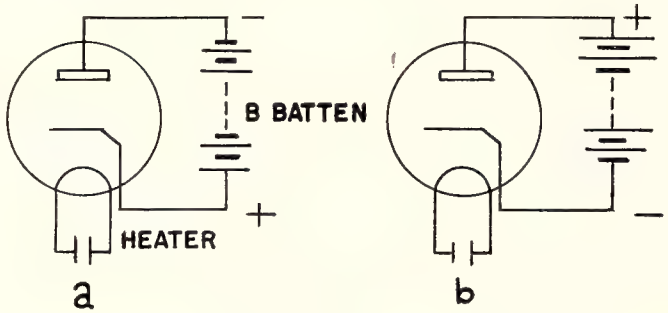


FIG. 3

In case (a), the hot cathode emits electrons, as we mentioned. However, it is necessary for us to recall that electrons are small units of *negative* charge and that since the plate of the tube is also negative, the electrons are *repelled* from it (like charges repel; unlike charges attract!). So the electrons don't get anywhere near the plate.

In case (b), the electrons emitted from the cathode are actually *attracted* to the plate, because the plate is now positive. And so in case (b), a current will actually flow in the battery circuit. Amazing isn't it!

This property alone is sufficient to enable us to build a half wave rectifier.

I think you'll agree that the tube will conduct only when the plate is positive with respect to the cathode, and so a sort of half baked DC flows through the load.

The diode becomes very useful when we add another electrode to it. But now it has three electrodes and so is called a triode. The third electrode is a grid of fine wire inserted between plate and cathode, and is called the grid. The metal parts of the grid are small enough to allow electrons to pass freely through it.

The main reason for its importance is this: Let's consider that the plate is fixed at + 100 volts and the grid and cathode are at ground potential (zero volts). Because the plate is more positive than the cathode, a current will flow. If the grid is made a few volts higher that the cathode, the grid will assist the plate in attracting the electrons and the current through the tube goes up by leaps and bounds. If the grid is made a few volts below the cathode, the grid retards electrons, and the number reaching the plate is drastically reduced. In fact the current may be stopped entirely. Notice that the criterion is only the voltage of the grid with respect to the cathode. When I say "make the grid a few volts higher than the cathode," you'll realize that there are two ways of doing this: 1/ by increasing the grid voltage and 2/ by decreasing the cathode voltage.

The triode is represented in Figure 5.

The triode is important in radio because small voltages on the grid can con-

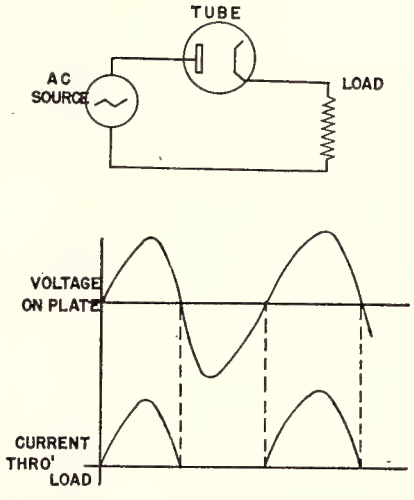


FIG. 4

trol big currents. Such a tube can be used to generate high frequency R. F.

Take a look at Figure 6, and remember that the triode is just an amplifier or magnifier. Suppose we take a tank circuit L1C1 (reference November article) and start a very small oscillation in it by some means.

Now L2 and L1 form a transformer and through L2 some of the oscillation is fed into the amplifier where it is amplified and fed into the original tank circuit and the whole process cascades until there are very strong oscillations in the tank circuit.

You may ask "where do you get the small oscillation to start with?" My answer would be that the disturbance caused by throwing a switch or anything else for that matter, is sufficient to cause a tiny oscillation. Notice that the frequency is determined only by the values of L1 and C1.

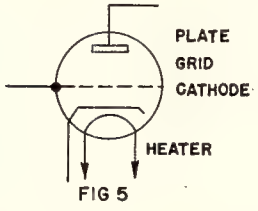


FIG 5

Now as far as hooking the thing up with a triode, we have to use our heads a bit. Out of thin air I'll produce the circuit of Figure 7.

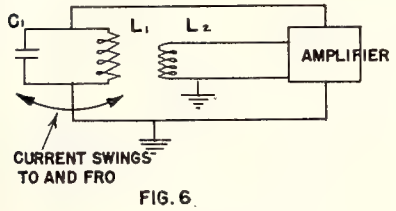


FIG. 6

Now let's pick out the things that we know. First, L1C1 screams out that it is the tank circuit. He's the fellow that determines the frequency.

C2 serves one purpose only. He stops the battery from being short circuited by the path AXYD and that's the only reason we put him there. He stops DC but allows RF to pass through him like a hot knife.

D3 in like manner stops the grid being shorted to the cathode.

R1 is important. The grid, being struck out in the electron stream does catch electrons, and slowly becomes more and more negative—so we put R1 where it is to let them leak off to the cathode. Without R1, the grid would become so negative that the tube would stop conducting.

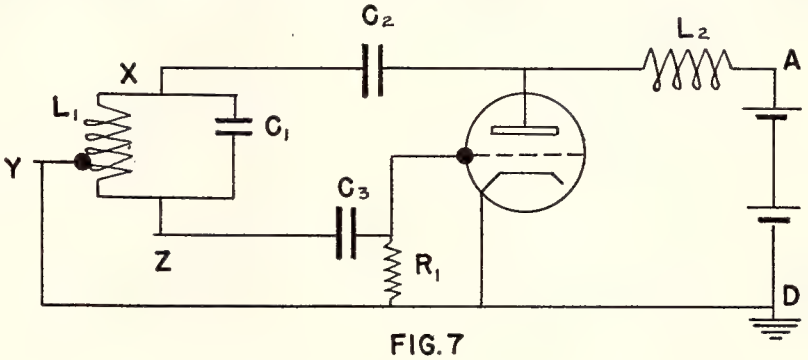


FIG. 7

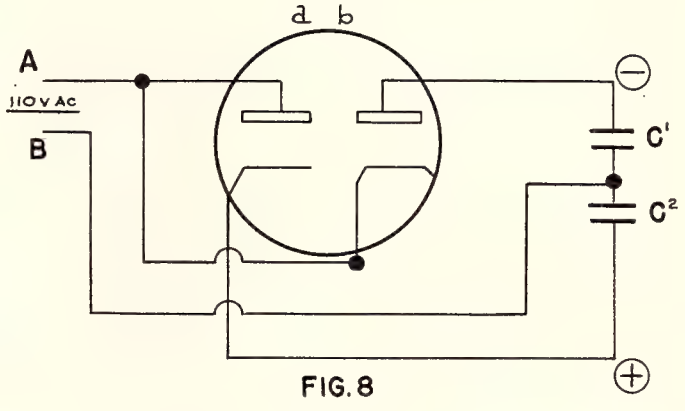


FIG. 8

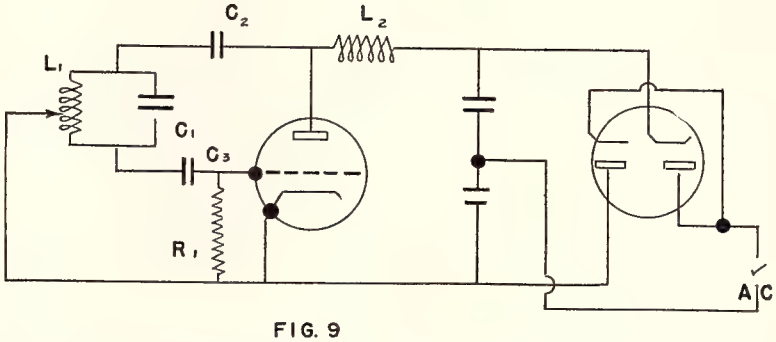


FIG. 9

L2 blocks off the R.F. path through the battery and confines all the R. F. to the tank circuit. Remember that an inductance stops R. F. but allows DC to pass through it.

The tap at Y on L1 is the means used to get the R.F. into the triode to be amplified.

Lastly, a good power supply is needed to drive the oscillator. One could use batteries but they're messy. A good system I've used several times is the "Voltage Doubler." It supplies about 200 volts. Now don't get excited—this 200 volts won't get near your track and it's quite safe.

The voltage doubler uses a double diode (two diodes in one bottle) and two big condensers. Big condensers act just like storage batteries. The circuit is shown in Figure 8.

When A is positive, section a conducts and so the condenser C2 is charged with the bottom end (plus). When A is negative the cathode of b is negative, that is, the cathode falls below the plate so the b section conducts charging C1 with the upper end (minus). A little reflection will reveal that the voltage across the terminals is double the line voltage.

The complete assembly then would be a combination of Figures 7 and 8, and is shown in Figure 9. All that remains now is to discuss how this is put into practice and then you can control what you will!

This O gauge model was built up by the author using the methods outlined here. Due to its length, or rather lack of it, the prototype is ideal for modeling purposes—it can negotiate short radius curves with ease and has a multiple of uses.

A Missouri Pacific Gondola

Prototype for this car was built in 1892 for the MoPac and was used primarily for coal.

by ERIC BRUNGER

HERE's a small size Gon to go with that short Box Car described in the December issue. This little job was built by the Missouri Pacific around 1892 as a coal carrier. Note the lack of hoppers as on the modern coal car.

The car, as shown in the photos, is now being used to carry spikes, fishplates and other track laying gear on my "Central and Ontario." When track laying is finished, it will be returned to service as a conventional gon to transport open loads, sand, scrap, etc. The body can be constructed less sides and ends and you have a nice flat car (incidentally, few pikes have enough of these). The model shown has been modernized slightly by adding a Westinghouse K-2 brake and the necessary brake levers, piping, etc. This detail is optional.

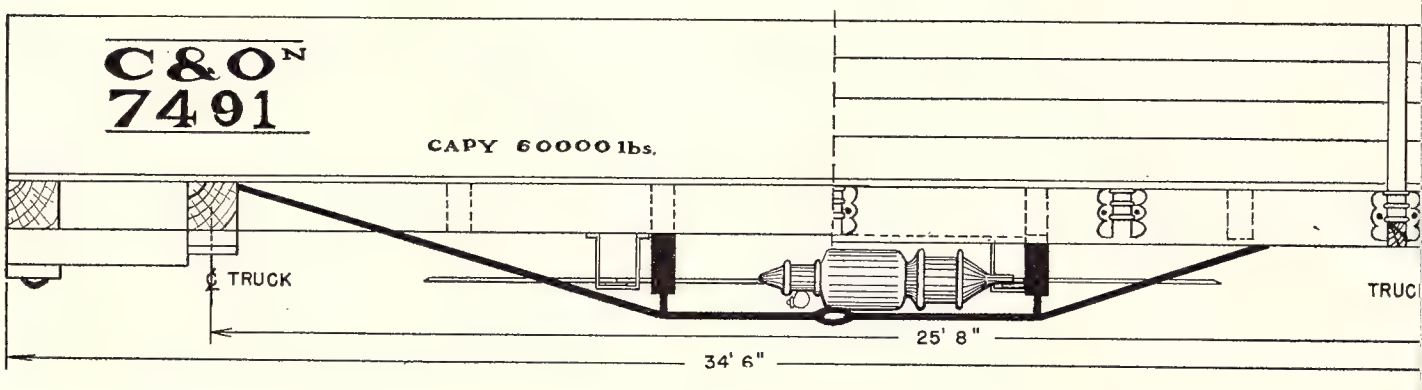
As with the Pennsy Box Car described in December, construction starts with the floor. You might note that these cars were built about the same year and floor construction is essentially the same. Mark out the overall dimensions of car (width and length) on 1/16" wood. Square after you cut it out and then, marking every ⅛", scribe one side *width-wise* to represent floor planks. When cutting wood, use a sharp instrument—don't spoil your models with a dull tool.

One of the features of this car is the fact that all overall dimensions are the full length and width, except end pieces and some underbody framing. As the sides set down on top of floor, it is not necessary to subtract the thickness of the side and end material when building the floor.

Once you have cut out the main floor section, cut the ¼" square end sills and glue them in place. Here's where you can put those X-acto clamps to good use—they help to produce a firmer joint. Next cut side sills from 5/16" x ⅛" material to fit between end beams. After these have been glued in place (again using clamps) cut the longitudinal beams and crossbearers for the underframing. These are notched to fit together, forming a strong grid-like structure as sketched in the box car article. On plan, crossbearers are shown dotted in the side view while truck bolsters and end sills are shown with the wood grain lines. The truck bolsters themselves are glued on top of the ¼" square crossbeam as shown in plan. If you don't want to bother notching the ¼" square beam, you can cut the longitudinal braces to about this piece and then continue them between the end sill and beam with a separate piece. I don't advise this with the thinner pieces of the underbody framing in center of car as butt joints there will make it easier for the car to warp.

Once you have cut and fitted underframe grid, glue it to car floor under clamps. Incidentally, vise jaws are a good substitute from clamps provided they are long enough to clamp a considerable portion of the car floor. Put the car in vise with sides parallel with the top of jaws.

Next step is to mount the truss rods.



SIDE VIEW

Plans shown above are full size for O gauge.

Notice we haven't used handrail posts that are usually used as truss rod supports. File eight triangular pieces of brass to shape shown on plan and solder them to a thin strip of tin can stock which has been pinned to bottom of truss rod beam (this beam is first glued to crossbearer). These truss rod pedestals resemble those of the prototype and the peak of the triangle is notched to fit the truss rods themselves. Holes are drilled in the beam under truck bolster into which rod ends are fitted. The rod itself is best formed to approximate shape *before* attaching to car and soldering to pedestals.

Many builders omit turnbuckles from their models claiming they are not too noticeable. The simplest way to simulate this detail is to wrap paper around the wire at center to give additional thickness. Perhaps the best method is to slip some thin-walled brass tube over the wire. Solder in place and then file the sides through to expose the hollow center—this will make a convincing turnbuckle. If you follow this latter method, your truss rods must be in two parts, cut at center, to allow a gap which will show up after the walls of tube have been filed away. Finally, there is the *file-them-from-brass* type used in the models illustrated. The turnbuckles are laid out on 1/16" thick brass sheet and the center drilled out and filed to shape —the turnbuckle is then filed or cut from the sheet, put in a vise and holes are drilled in each end for the truss rods. These are soldered in place. This type of small detail is definitely noticed and is well worth the effort involved.

For the brake detail, the cylinder is glued to a small piece of 1/16" wood and this in turn to the floor beams. Brake levers are shown on the side view. Both brackets for the brake levers are on the same beam, one of the two center sills—the opposite of the one to which you attach brake cylinder.

For coupler mounting, glue two pieces of ⅛" x ¼" wood as shown on plan. Pin a brass plate to these or mount with small screws. Drill the plate to clear a size O x ½" wood screw and mount coupler. To resemble the original coupler pocket on the car, I flattened a piece of ¼" brass tube to an oval shape and soldered this to a brass plate which was in turn pinned to the center sills. To the end of this tube I soldered a face plate shaped as shown in the sketch. The tube was then drilled and tapped to mount the coupler. Truck bolsters are then glued on, shaped as shown on right hand side of end view.

Mark off and mount stake pockets (I used Westbrook's). Note there are also stake pockets on ends of car. Once mounted, fit stakes to them, getting the height from plans, width to make a tight fit in pockets.

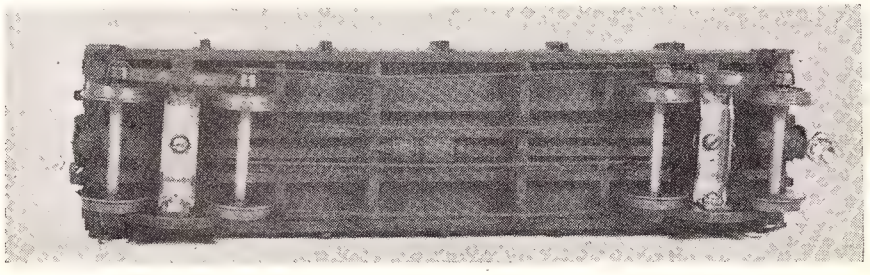
The sides and ends were cut from 1/16" thick strip ⅞" wide and scored to represent individual boards. They were held in place separately, the stake pocket location marked off and finally the stakes were glued into correct position. When dry, these were fitted to floor by inserting the stakes in pockets. The ends, which fit *between* sides, are glued with a butt joint. In this way, the entire side and end assembly can be removed giving the car a dual purpose, both gondola and flat. Sides of the car can be built higher or lower than the plan indicates.

All that remains is to mount the brake staff and paint and letter. The staff is a section of stiff brass wire, soldered to a small Z bracket mounted to the underside of the ¼" square end sill. The wheel used on my model is a brass stamping made by Walthers. There is no danger of melting when being soldered. A small U-bracket around staff, pinned to end, holds the staff in place on car.

You may not want to glue your side and end pieces together, bank pins can be used for this job. This makes a neat assembly. However be certain a soft, straight grained wood is used to prevent splitting when the bank pins enter the car ends.

The car is finished entirely in dull black. If you use decals instead of hand lettering, use a gloss paint or a gloss varnish after painting. After decals have been applied, go over the car again with a dull varnish to get that *old freight* car appearance.

It might be well to mention here a few notes on proper finishing techniques. All too often an otherwise beautiful model is ruined in this final stage of construction. That freight car might have the last word in underbody detail and hinged doors that actually open but the paint job itself is often uneven, streaky or gritty and applied over parts that have not been properly sanded.

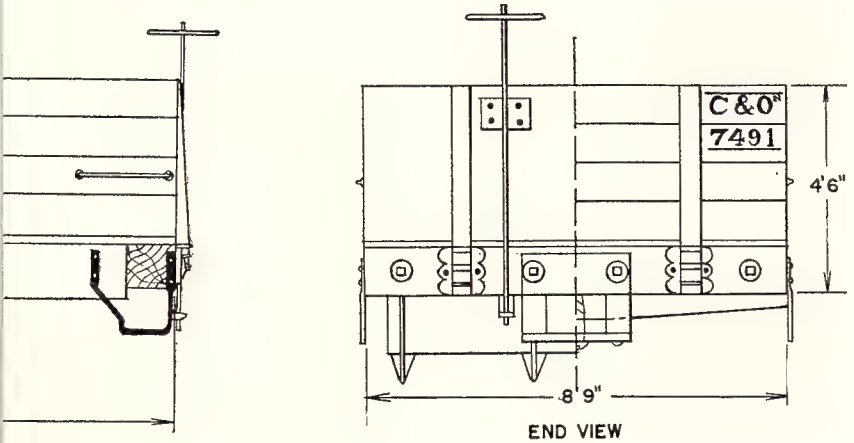


Underside of the MoPac Gondola. Note the amount of detail the author has included. Such a model deserves a careful finishing job so as not to mar the detail.

Applying a good finish to a model should begin before assembly. All parts should be sanded thoroughly with a 3/O to 5/O paper, using a sanding block. After this initial sanding, an application of pastewood filler should be given to all flat pieces, followed by another sanding with a 5/O paper. As most modeling woods are open grained and highly absorbant, this wood filler is essential.

When the car has been assembled, it is ready for the first coat of paint. Use a good model railroad paint and thin with at least one part turpentine. After this first coat has dried thoroughly, again sand using 5/O paper. If the surface is not hard and smooth, apply a second coat of wash or as many more coats as is required to give a hard finish, sanding between coats.

The final body coat is again thinned with turpentine to the viscosity of syrup and applied to the model. It is smoothed down with a fine steel wool, dusted and hardware parts assembled. This is followed by a final wash coat which is allowed to again dry thoroughly. Following the application of decals or hand lettering, the model is given a single coat of a good flat varnish and when dry, it is ready for operation. This might seem to be a lot of unnecessary work but it will give your model the desired finish and be a credit to your craftsmanship.



END VIEW

¼" to the foot

Along the Tinplate Track

with Louis Hertz

AMERICAN FLYER WIDE GAUGE 1

PROBABLY every reader of this department has at one time or another witnessed the following scene in a hobby shop or toy department.

A fond relative or friend enters to purchase extra cars or accessories for a youngster's electric train set.

"What gauge does he have?," the salesman asks gently.

The prospective customer seems at a loss. "Gauge" is a word previously outside his vocabulary, save perhaps in reference to the water glass on his oil burner.

The salesman is used to this. "How wide is his track?" he explains.

The customer is at a loss. Perhaps he holds out two fingers an indeterminate distance apart, looks sheepish, and says, "about like this—I think."

"This may indicate anything from HO upwards. The man behind the counter knows how to deal with such situations, however. He reaches down and picks up several sections of different track and shows them to the customer, one by one. "Is it the wide gauge like this? Or is it the narrower gauge like this" and thus onward. A glimmer of light appears in the prospect's eye. With a gasp of relief second only to that of a drowning man grasping a life preserver, he grabs one of the sections and shouts triumphantly, "It's like this!" Happily, perhaps four out of five times he does pick the right one and Junior's new car isn't too wide or too narrow for his track.

This scene has been going on ever since the century was young. You may have witnessed it last week, or it may be a matter of fifteen or twenty years ago. The dialogue would have been the same. There is really only one difference. If it happened within the last few years, then it is probable that the section of track the clerk held up when he asked "Is it the wide gauge like this?" measured exactly 1¼" between the inside edges of the running rails—O gauge. But if it happened somewhat further back, then the track section that illustrated the big size was something different. It was 2⅛" between rails, and, depending on the make of tinplate train the store favored, it was either "Standard gauge" or, descriptively, "Wide gauge." We think it can safely be said that no man who has been active in model railroading for fifteen years or longer can ever hear anyone refer to O gauge as "The Wide Gauge" without being a little startled, and perhaps a little sad.

If you should talk to one of these "old timers" of fifteen years seniority (the expression "old timers" sounds a little grotesque to refer to someone who is merely venerable enough to remember when 2⅛" gauge was cataloged) you can probably tell what make of tinplate train he owned or favored as a boy by the name he calls the 2⅛" gauge. If, instead of calling it "Standard," as most of us do, he still scrupulously refers to it as "Wide Gauge" you can be certain beyond peradventure that American Flyer or Dorfan were his boyhood favorites, for "Wide Gauge" was a term exclusively used by these two firms in referring to the 2⅛" track. And, naturally enough, both of these companies called O gauge "Narrow Gauge."

For many years Lionel had been the only firm to manufacture 2⅛" gauge, and they had long called it "Standard Gauge." In the 1920's they registered the name "Lionel Standard" as a trademark. When Ives brought out 2⅛" gauge in 1921 they first erroneously called it "No. 2 Gauge." In 1922 they referred to it as "Standard 2-Gauge." We don't know if any question was ever raised, but they seem to have concluded it would be wise to be wary of the use of the word "Standard" to designate a gauge. From 1923 through 1930 Ives called it simply "2¼-Gauge," the 2¼ coming from the old incorrect method of measuring a gauge from the rail centers, which made O gauge 1⅜" instead of 1¼". In 1931 and 1932 when Ives was owned by Lionel, the term "Standard gauge" was used in their catalogs. At times Lionel has also designated it as "S Gauge," for brevity on small boxes, and, oddly enough, as "Standard (Wide) Gauge" in some of their special British catalogs.

When American Flyer introduced their 2⅛" gauge line in 1925 they coined the term "Wide Gauge," although they used the erroneous "No. 2 Gauge" or "No. 2 Wide Gauge" in a few places in their

Christmas is on the way—
Get Dad ready for it!
Now's the time to send for our big new four-color catalog which shows the full line of American Flyer trains and 100 accessories, with prices. Get one now to show your Dad. Perhaps it will help him in selecting his present to you this Christmas. American Flyers are the finest trains made—you know that. See that Dad knows it, too. Send for catalog today.
"American Flyer"
MINIATURE TRANSPORTATION SYSTEMS
AMERICAN FLYER MFG. CO.
2219-39 So. Halsted St., Chicago, Ill.

An American Flyer ad from 1926 featuring their new "Wide Gauge" models. The items pictured were components of the very first "President's Special" set, the No. 4039 locomotive and the first 19" observation car with four wheel trucks.

1925 and 1926 catalogs. When Dorfan brought out their first 2⅛" gauge trains in 1926 they followed suit in calling it "Wide Gauge." Boucher, the fifth manufacturer of this gauge in the United States, on the other hand, generally referred to it as "Standard." That term was, in fact, often used in stores in referring to the gauge when several makes of trains were handled, despite American Flyer's efforts to have their products known as "Wide gauge."

We regard "Standard" as the proper and popular designation for this gauge, and usually use it. However, as we are dealing exclusively with American Flyer's productions in this size in this issue and the next, at the request of a number of AF fans, we shall call it by the name they favored, and hence the title of this month's article.

Before going into detail about the AF Standard — excuse us, Wide Gauge — models, we should like to record a little bit of coincidence which had never struck us before we started to go through our files gathering material for this article. That is the repeated factor of twelve years in American 2⅛" gauge production. Aside from Lionel, who introduced the gauge in 1906, twelve years seems to have been the precise limit for the production of this gauge. Witness:

Ives introduced it in 1921 and last made it in 1932—twelve years.

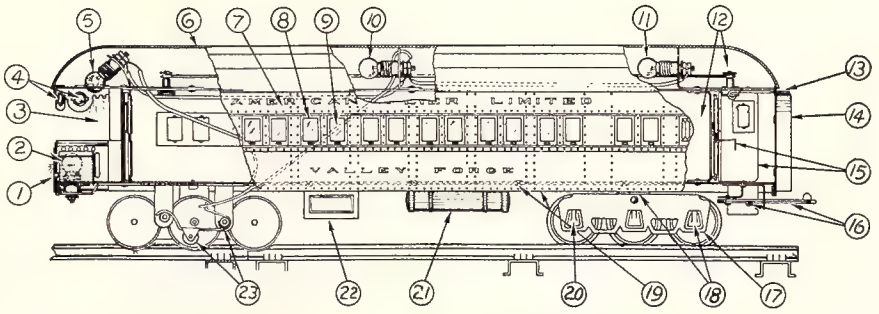
Boucher introduced it in 1924 and last cataloged it as part of their line in 1935 —the catalog dated 1934 with price corrections served as their 1935 catalog—twelve years.

American Flyer introduced it in 1925 and last made it in 1936—twelve years.

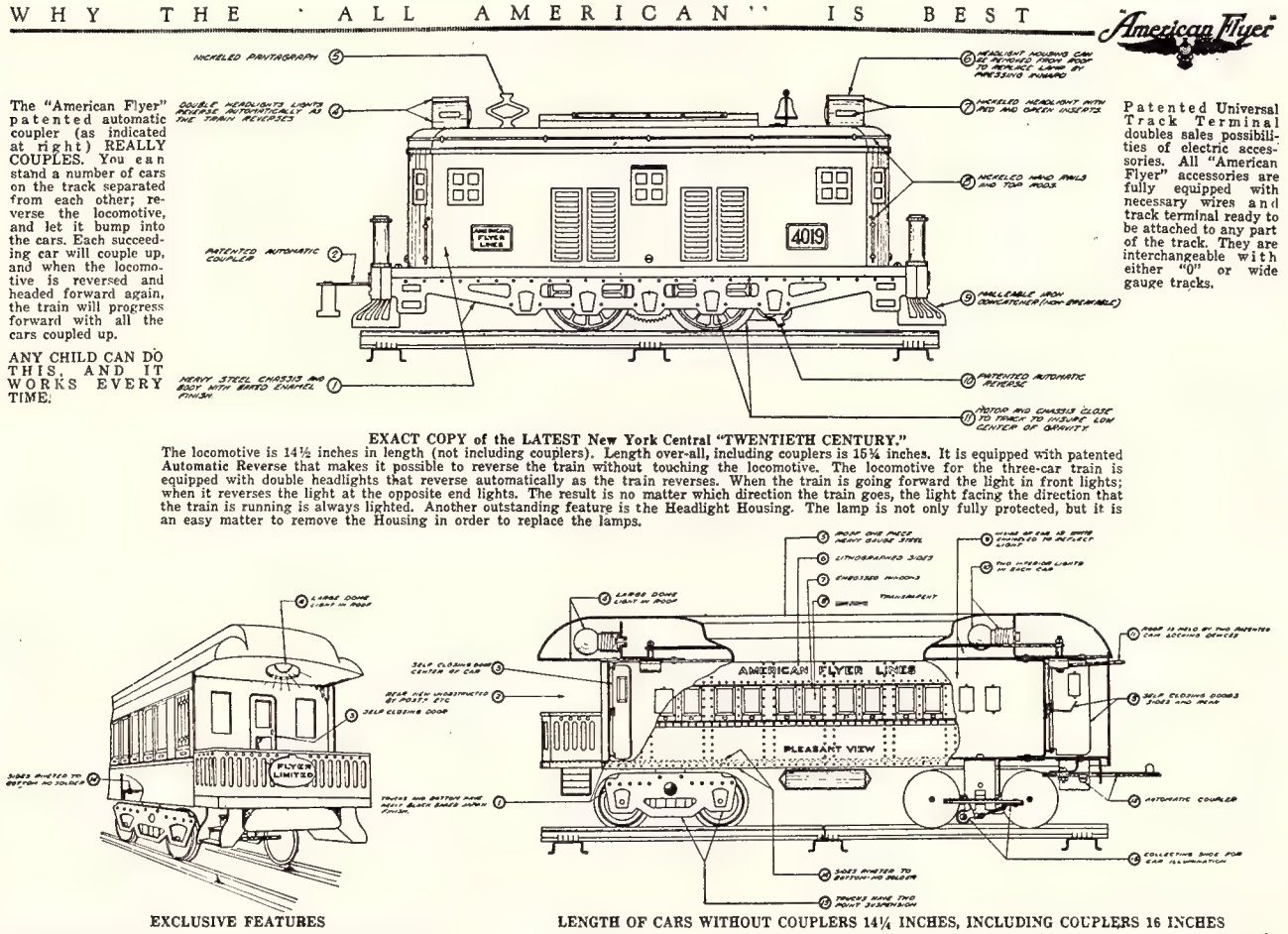
Dorfan introduced it in 1926. Just when they last had any 2⅛" gauge items in actual production we cannot say—it was several years short of twelve, so Dorfan is the exception which keeps the case from being just a little too perfect.

There is one very interesting point about the history of American Flyer's Wide gauge line. Almost certainly when you think of it the first thing that comes to mind is the name of a train, and a mental picture of that train, the "Presi-

(*Continued on page* 34)

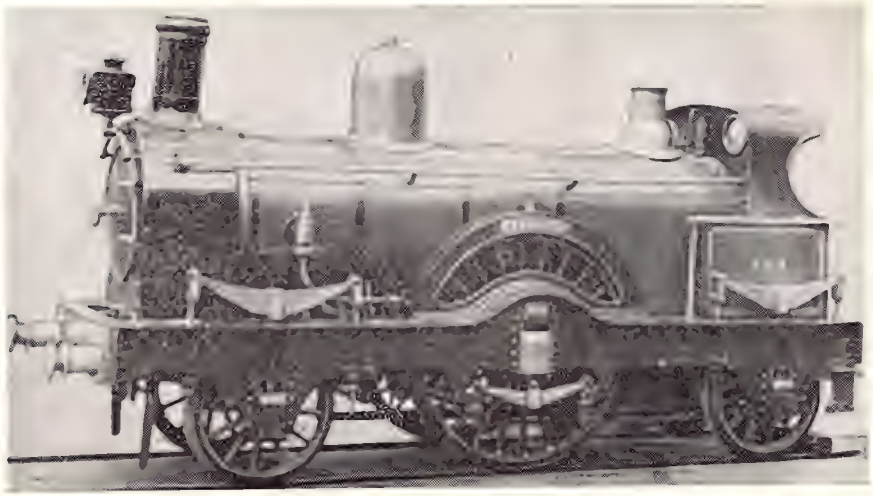


A detailed drawing of the American Flyer 19" "President's Special" observation car of the 1927 model. This car was lithographed in dark blue and featured six wheel trucks. Later cars of this size were enameled. Note the car pictured employed no less than four bulbs, a record for a single tinplate car.

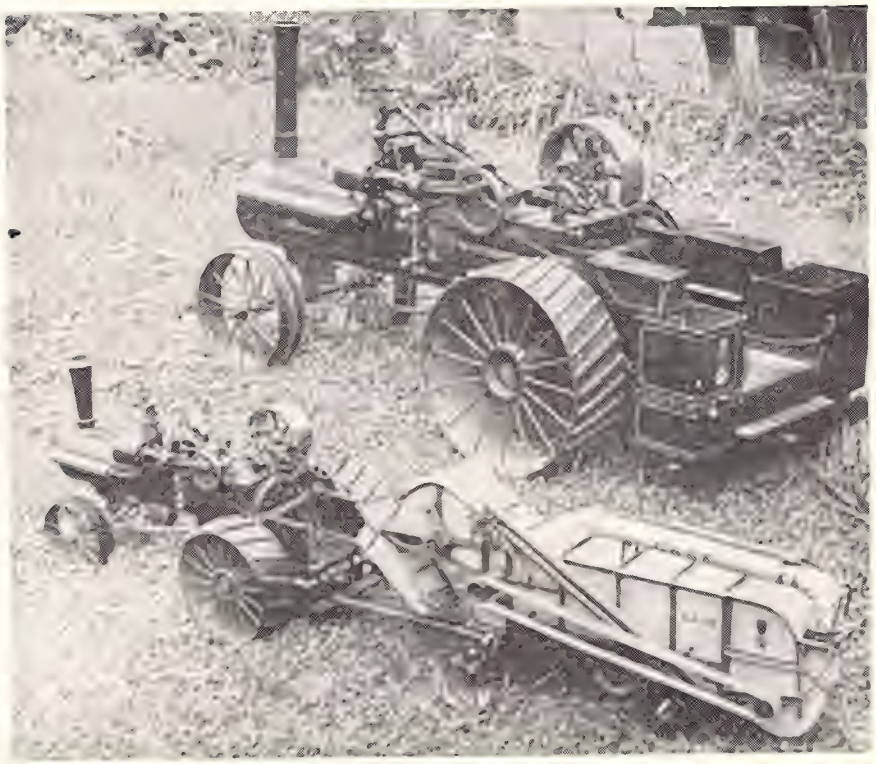

WHY THE "ALL AMERICAN" IS BEST
American Flyer
The "American Flyer" patented automatic coupler (as indicated at right) REALLY COUPLES. You can stand a number of cars on the track separated from each other; reverse the locomotive, and let it bump into the cars. Each succeeding car will couple up, and when the locomotive is reversed and headed forward again, the train will progress forward with all the cars coupled up.
ANY CHILD CAN DO THIS, AND IT WORKS EVERY TIME.
NICKELED PANTAGRAPH
DOUBLE HEADLIGHTS LIGHTS REVERSE AUTOMATICALLY AS THE TRAIN REVERSES
PATENTED AUTOMATIC COUPLER
HEAVY STEEL CHASSIS AND BODY WITH BAKED ENAMEL FINISH
4019
NICKELED HAND RAILS AND TOP POSTS
MALLEABLE IRON CONCATENATION (NON-BREAKABLE)
PATENTED AUTOMATIC REVERSE
MOTOR AND CHASSIS CLOSE TO TRACK TO INSURE LOW CENTER OF GRAVITY
Patented Universal Track Terminal doubles sales possibilities of electric accessories. All "American Flyer" accessories are fully equipped with necessary wires and track terminal ready to be attached to any part of the track. They are interchangeable with either "0" or wide gauge tracks.
EXACT COPY of the LATEST New York Central "TWENTIETH CENTURY."
The locomotive is 14½ inches in length (not including couplers). Length over-all, including couplers is 15¾ inches. It is equipped with patented Automatic Reverse that makes it possible to reverse the train without touching the locomotive. The locomotive for the three-car train is equipped with double headlights that reverse automatically as the train reverses. When the train is going forward the light in front lights; when it reverses the light at the opposite end lights. The result is no matter which direction the train goes, the light facing the direction that the train is running is always lighted. Another outstanding feature is the Headlight Housing. The lamp is not only fully protected, but it is an easy matter to remove the Housing in order to replace the lamps.
AMERICAN FLYER LINES
PLEASANT VIEW
FLYER LIMITED
EXCLUSIVE FEATURES
The Observation Car is equipped with a very realistic observation platform, which is lighted by a flood of light from a dome light in the roof of the observation platform. The view from the rear of the car is unobstructed by any supporting posts between the roof and the floor of the car. It is possible for us to completely eliminate these because of the unusual sturdy construction of the cars.
LENGTH OF CARS WITHOUT COUPLERS 14¼ INCHES, INCLUDING COUPLERS 16 INCHES
1—The sides of the cars are lithographed on heavy steel in detail and shade to correspond to cars of leading railroads.
2—Cars are equipped with spring doors at the vestibule entrances. They can be opened and closed automatically.
3—Cars are equipped with two interior lights, a feature not found on any other trains. Inside is enameled white.
4—Baggage car has four sliding doors.
5—The car roofs are easily removed. They are held by two patented cam locking devices.

American Flyer introduced 2⅛" gauge models in 1925. This is a page from their catalog of that year showing detailed specifications of their new passenger cars and deluxe locomotive. The locomotive body and cars shown here were continued in various modified forms throughout most of the period AF made this gauge.

International Brotherhood of Live Steamers



Working 1½ inch scale live steamer built complete with Stephenson Link Motion. This model is the proud possession of Bob Johnson of Toronto, built by his grandfather in 1884.



Two inch and one inch scale models of steam traction engines, the latter with threshing machine. Both are perfect in detail and burn coal. Built and operated by Harry Allin of Somerville, Ontario.

by BOB GRAHAM

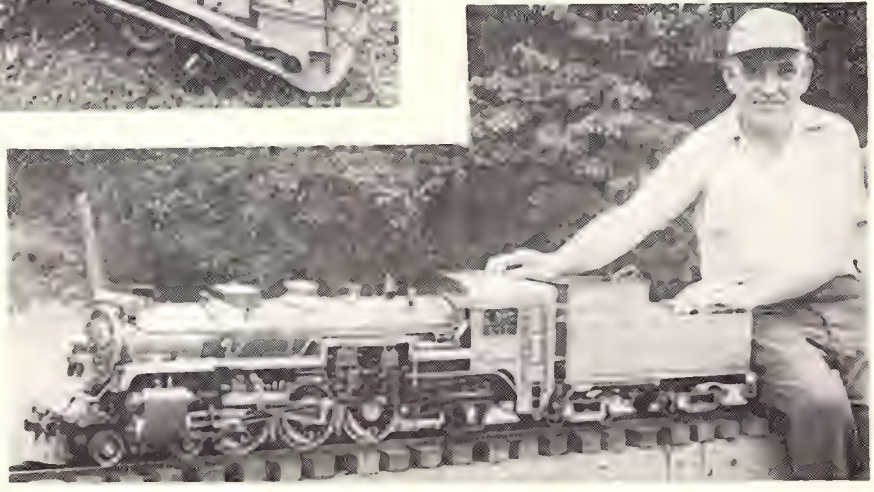
ONCE a year the Toronto Society of Model Engineers hold a live steam meet widely attended by both Canadian and American enthusiasts. They now have over five hundred feet of operating track in ¾ inch scale, all located on club-owned property and complete with individual ties and switches. The track is raised about two feet from the ground for access purposes.

An interesting turntable of the Armstrong variety has been erected on a siding just off the main line. This turntable serves twelve tracks on which the individual modelers work on their locomotives. As an engine completes its run, it is stored on one of these tracks. At the most recent meet held in the later part of August, about twenty live steam locomotives were on hand and put through their paces. Power ranged all the way from a small O-4-O Saddle Tank locomotive built by John Matthews of Chicago to the powerful 4-6-2 shown below.

The Toronto track is open every Saturday and Sunday during the season. For information, contact either Fred Jerome, 236 Willard Ave. or M. G. Fiegehen, 36 Grenview Blvd., both of Toronto.

Incidentally, membership in the Brotherhood of Live Steamers is open *only* to those modelers who have built, are building, own or are *seriously* contemplating the construction of a small working steam locomotive. Secretary of the Brotherhood is Charles A. Purinton, 2 Longfellow Road, Marblehead, Mass.

4-6-2 steamer built by Charles Montgomery of Toronto. It is a ¾" scale model of the CPR and took six years of spare time to build. Weighs 165 pounds and can pull 12 persons. Operates with 80 lb. steam pressure and uses coal for fuel.



THE LAYOUT DOCTOR

Having trouble with your model railroad, is it a smoothly operating pike? The Layout Doctor is here to help you, he will offer many suggestions that will add untold realism to your railroad empire. If you have any layout problems, send in a sketch to the Doctor for unbiased criticism.

LAST summer, J. W. Keefe of Auckland, New Zealand, submitted his layout to the Doc with a plea to hurry for his subscription to Railroad Model Craftsman was expiring and could not be renewed for lack of American exchange. As I have explained several times in these pages, speed in doctoring a layout in the magazine is impossible owing to the time needed in printing and editing and the time required to plan these articles. But, scenting a little something extra for an article, I wrote to Jim suggesting some changes in his pike, explaining the impossibility of getting his pike in an early issue and questioning him on the problems of Railroading Without Dollars.

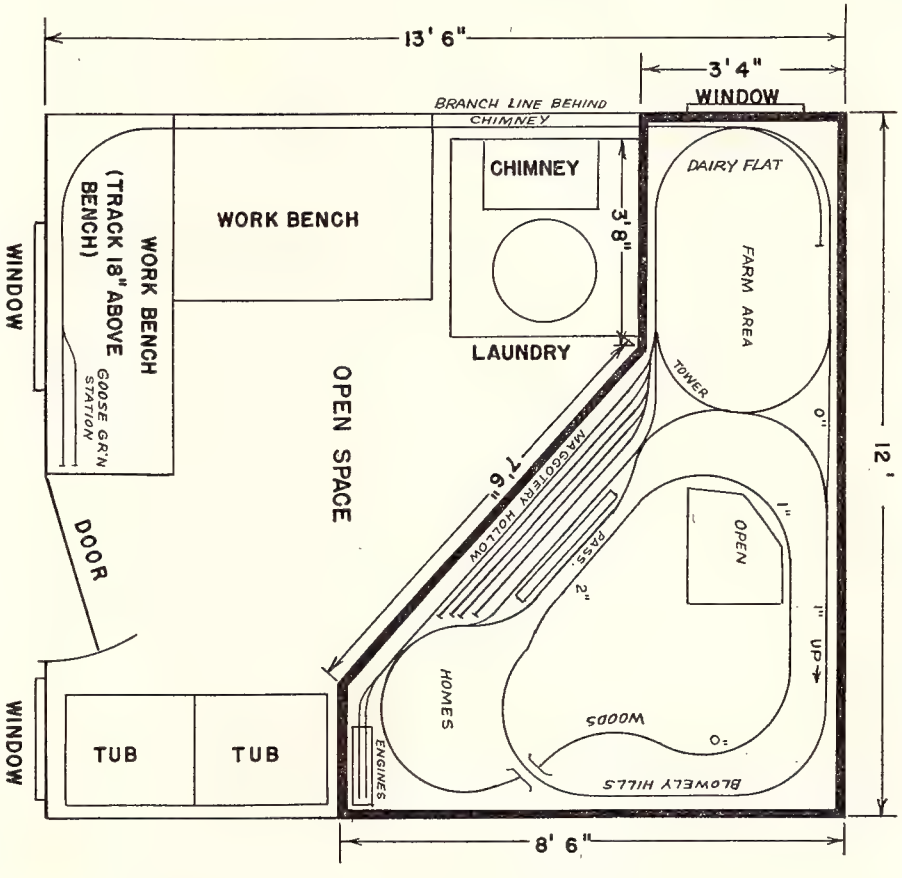
Jim's neatly drawn proposed layout is presented herewith. Note that it is drawn in the tradition of British model railroad design—the heavy border, the fantastic names, the "goods" lines, etc. What corrections I did suggest to J. W. Keefe proved impossible because he is using Hornby HO tinplate track of fixed radius. I wanted a separate yard lead running along the 3'8" length by the "laundry cooper" (Whazzat?) and connected to the main line by a right hand crossover, but the exigencies of the width available and radius of curves prevented that. I would have continued the proposed yard lead around the chimney as the branch line to the work benches and *Gooses Green*. I would also have eliminated the two switches at Dairy Flat, but Jim told me in his second letter that he could reach in through the window to these.

He has a pretty good layout at that, with an inside out figure eight for continuous running, two wyes for reversing and re-reversing of trains in motion, a branch line and a fair-sized yard and terminal set-up. For working with fixed track radii, he has done remarkably well and some American tinplaters who read this can adopt his design for their own lines. No two-railing need be shown since this is inside third rail. I'd suggest that the yards and arc of track past Dairy Flat be separately controlled though. How do you like the names—*Gooses Green, Dairy Flat, Magottey Hollow, Blowly Hill?*

But Railroading Without Dollars! Just another reason to be thankful you live in the U.S.A. As Jim says, "American model rails don't know how lucky they are—it nearly makes me cry to see all the model goods advertised in the Railroad Model Craftsman." Nowhere else is the manufacture of model railroad goods conducted to anything like the extent as in the United States, with the *quite secondary* exceptions of England, Sweden, Australia and in occupied countries for export to the U.S. Other countries do not have the vast buying public built up over the years that we have. The vast variety of scale model equipment we have available could not be absorbed by any other country—hence their variety is quite limited and competition is limited too.

What hurts most of all is the "dollar situation" which recently led to the devaluation of various foreign currencies. While we are free to spend our money in any country we please, it is illegal for a New Zealander to send N. Z. currency out of the country and the difficulties placed in the way of sending drafts are almost insurmountable except for vital materials. Dollars or dollar credits must be kept for important things. The same is true of other countries too to varying degrees. If you happen to correspond with anyone in another country, you will find him pathetically eager to obtain U.S. credit by almost any means, so he can obtain U.S. goods unobtainable in his own country.

Some can place articles with the U.S. model magazines and get instead of cash, American books, magazines, model supplies, and so on. Others will trade model supplies available in their country for U. S. supplies: but how many U.S. modellers would prefer foreign equipment to American in appearance? Some, but not many; and the curiosity angle



Original HO layout designed by J. W. Keefe of New Zealand.

soon wears off. Duties are involved too, although in some cases Free Gifts so marked are not dutiable.

Except for O gauge wheels, New Zealanders are limited to Hornby tinplate equipment in their purchases: and in these, points (switches) and separate rolling stock are hard to get. Prices are high, too, currency devaluation having no meaning in trade outside the dollar area. Hornby sets available down there in New Zealand are three in number, and all HO gauge—and they cost almost twice as much as identical sets sold in England.

So, you see, if Jim manages to get his model railroad built in spite of the high prices and scarcity of materials, it will be a great stunt.

STEVE HANSEN of Chatham Center, N. Y., submitted a neatly drawn plan of his Chatham, Nassau & Northern R.R., an HO gauge pike. In his letter, Steve laments the financial situation common to most of us but says he plans on eventual motive power roster of a Dockside Switcher, three steam road engines and a diesel A-B-A loco. He has learned some things from the Doc, or has had some experience, for he is determined to make his minimum radius 24" and to keep switches out of tunnels. His layout will provide a variety of operation, but yard tracks are impossible and the turntable approach is likewise.

A track approaching a turntable (put this in your book) must head straight for the *center* of the turntable. If it is a curved approach, it must be aimed at the center by the time it gets to the edge of the pit. Steve's approach track on his original plan should run across the site of his diesel shop.

One important reason for not deviating from strict use of ruler and compass when drawing a layout is that you are apt to make impossible yard throats. That is where Steve has slipped in his otherwise neat drawing. Even when you draw your yards with ruler and compass to scale, there are many discrepancies between the drawn and the finally completed yard throat because switches are not continuously curved. For instance, I have prescribed #5 switches for my revised layout, which in HO have a two foot radius between the point and the frog. These switches however are made only by one or two manufacturers whereas #6 switches are more widely distributed and can be used also on this pike. Changing to #6 switches with three foot radius however will distort yard throats somewhat and also change the appearance a little at sites of other switches. The prescribed two foot radii can be continued except at the switches.

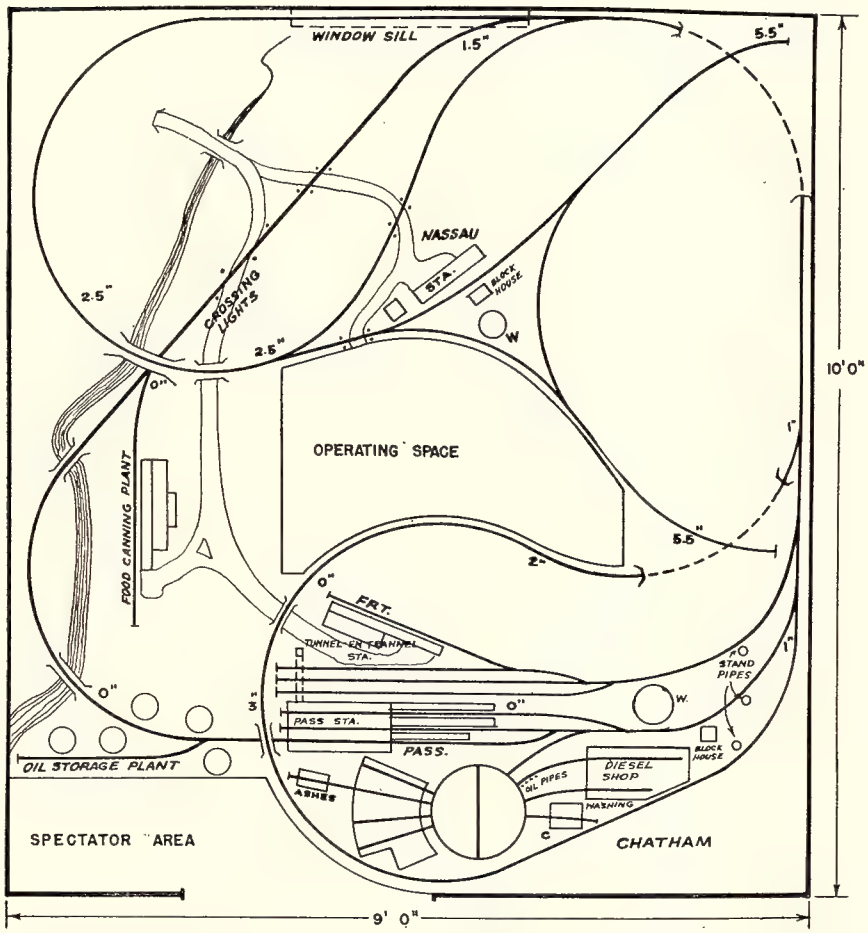
The switches along the top wall of Hansen's layout are bad and can only be reached with great difficulty. The wye also seems unnecessary although I suppose mines could be located at the remote ends.

I have redrawn Steve's pike along my own lines. I think it will be more fun, yet easier to operate. I have made it one foot longer than Steve's room to help out E. M. Faraday of Salt Lake City who had nine by eleven available instead of nine by ten feet and wanted to be able to run two trains at once in that space. As I have said before, I do not undertake to design pikes for people who write to me in care of Railroad Model Craftsman unless they seem to be of general interest. Faraday's letter reached me just as I started to work on Hansen's pike so I decided to kill two birds with one layout. Three birds, because I want to apply the lesson of last month's piece on Adapting a Layout to Fit Your Space. If Steve will omit the portion of track between the wavy lines at each side of his railroad, he will still have the same track plan. The three crossovers at right will have to be compressed slightly and the angle of the track across upper left corner will be changed a little. If the layout were to be built in a longer room, extra footage would be added at these same sites.

If you will study the revised layout for a while, you will detect two different routes, a "water wings" with only two switches, and an "oval." A yard lead along the right side of the layout provides a stretch of interesting looking four track main, and permits yard switching without fouling the main line. The three crossovers along the four track stretch plus one track through the terminal provide means of switching trains around from one route to the other or in and out of the yards.

I'd suggest that Steve build the water wings first since it has only the two switches. Then add the yards and yard lead, and finally build the "oval." In all construction, he must pay very careful attention to elevations I have marked so he can install other tracks later without relocation of already existing iron. He should have my drawing enlarged to 1" or 1½" scale, either by redrawing it himself or have it photostated. He should then mark on the enlargement the exact elevation needed for the roadbed at every 12 inches. He should be able to do this by interpolation if he gets good marks in mathematics, but failing that, the adoption of a standard of say 1/3" rise per foot will sometimes work out even if it makes grades steeper than planned originally. He should then build his open track framework with location of all planned tracks and needed track supports in mind.

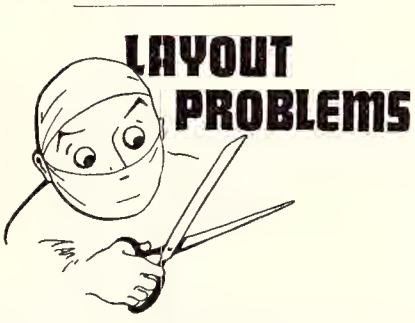
You will note that I have run the wing of the waterwing under the yards at Chatham, rather than over (which limited the length of the body tracks).



Original layout sketch of HO pike as submitted by Steve Hansen of Chatham Center, New York.

So the yards must run up-hill, not too desirable a situation. However, I suggest that Steve mount a piece of plywood or homosote the shape of the yards running from their throat to the ends of the yard tracks. This piece of plywood will have the correct grade, but laying track on it will be just like on the level. Care must be taken, though, with the changes in slope, if any, at the beginning and end of the grade under construction.

Electrical control is not too difficult. There is one two-rail block, A, for the yards and yard lead. The "oval" is divided into two sections, B and C, which could be wired to the same reverse switch for a while (do *not* omit any gaps), while the water-wings is shown as just one section D, although it could be divided. The turntable might as well be another section E, although it could be controlled through the yard control. Some kit turntables have reversing facilities built into their ring rail and so need no separate control. Any of the two-rail gaps or feeders can be moved, but not beyond a switch.



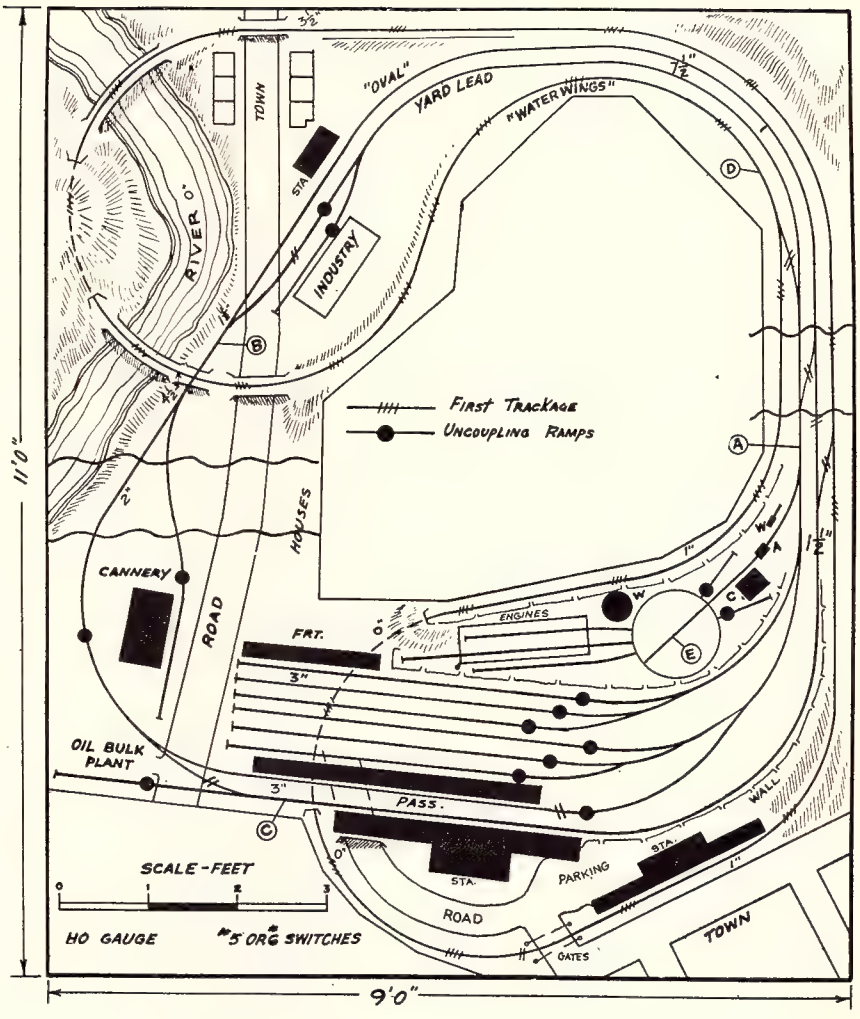
Each month the Layout Doctor will answer questions put to him in his fan mail. These questions will be reworded in the interests of brevity and clarity and those not requiring extensive work will also be answered by mail if a stamped and addressed envelope is enclosed.

I am trying to use the new 90 lb. lightweight HO grail now on the market on my HO-n layout, but am having great difficulty getting spikes that have small enough heads to clear the wheel flanges. What suggestions do you have?

ANSWER:

This is a problem that may well be worked out by the time this appears in print, at least I hope so. I have been having the same difficulty myself in regular HO gauge, and I hear that some of the broken axle mob on the Pacific coast have been in the same boat.

One scheme that works, but takes a lot of time, is to take each spike individually and grind down the thickness of the head, either before or after it is put in place, depending on what tools you have. What I am doing now is to spike the rail down (same as with regular oversized HO rail) in the usual way, then solder the outside spikes to the rail. Then I remove the inside spikes. Of course for trolley operation you could solder both rails to widely spaced tin or brass ties, but that is out for two-rail of course.



Revised layout sketch showing the "Doc's" suggestions.

If anybody has any other ideas or knows of any brand of spikes that will definitely clear wheels running on this 90 lb. rail, I would like to hear about same. I do know that there are a lot of shoddy spikes on the market with heads so long (and sometimes full of flash) that they cannot be placed close enough to the rail to do any good.

I would like to nominate Ray Haas, who manufactures this 90 lb. rail, for the manufacturer who has done the most for model railroading this year, even though the full impact of his pioneering will not be felt for some time yet. I should also like to nominate the Pittman Company for their trolley car kits.

I am very cramped for layout space, having what amounts to a good sized closet. Any suggestions?

In designing a small layout such as you need, it is very difficult to get away from the plain oval, however you disguise it with yards, inside-out figure eights, hidden trackage, etc. On a small panel you have, in truth, *so little space* you cannot get a long run. However such a layout can be expanded vertically —thus increasing the trackage & scenic possibilities. This is not common practice but should prove not only interesting but successful.

Power for Hon3

AT last that all important power plant for the Narrow Gauge Locomotive is to become a reality—no longer just an idle dream. This little *Jewel* is already in the first stages of production with two "hand-built" test models now out on inspection.

This Midget Electric motor, known as Model M-70, despite its small size, sports a full 7-pole armature. It will fit into the cab and boiler of your favorite little locomotive without distortion of design or use of a long tender drive.

The demand for steam type loco kits is becoming widespread indeed, not only among the narrow gaugers themselves but the HO fan who sees the interesting possibilities of a Narrow gauge branch line addition to his present Standard gauge layout, or the more elaborate *Dualgauge* system. This new motor is being produced by Major Electronic Enterprises—manufacturers wishing more information on the motor and Locomotive plan sources should contact this concern in care of Western Narrow Gauge, P.O. Box 524, Inglewood, Calif.

Fiction or Fact

You'll find more enjoyment from model railroading when you build up a story around your pike. It will help with your layout problems and suggest interesting variations.

by BART CROSBY

RAILROAD Modelers by and large in their model making, copy to some extent, prototype ideas for their own miniature pikes. They incorporate actions which were in actual practice or are currently used by some prototype in our vast network of railroads. The individual modelers may elaborate or they may cut down to fit their demands the specific action or scene which appeals to them.

How many of those modelers, however, carry on the prototype illusion just a bit further and weave a yarn about their miniature pike or railroad empire? Some go on record as saying the idea is swell. Some poo-poo the notion, while still others are noncomittal about the entire idea.

Let's take a specific case, the writer's HO Gauge New Castle & Frenchtown Railroad.

All that was used for the pike was the original name. There are no existing records to my knowledge showing how Frenchtown looked 'way back in 1833.

New Castle is, of course, very much alive as some 8000 of us live here today.

Back in 1833, the road was a single track for 18 miles, from New Castle on the Delaware River to Frenchtown on the Elk River in Maryland. A trek along the original roadbed was nonrewarding and the only building still standing at Frenchtown is a Colonial Mansion built around 1750. It is now a private estate.

So, for something really concrete, the "engineers" of the N C & F had to fall back on their imagination. As mentioned in a previous article, the pike dates approximately from a period 1875 to 1915 which is a fairly representative span of years for railroading as well as architecture.

From here we take off into sheer fantasy!

When my grandfather was general manager of the N C & F way back in 1875, he told me that the original grants called for a single track main line with occasional spurs as needed. This was a pretty haphazard way of doing things but the railroad kept within the law and never seemed to go beyond it's original charter.

Shortly upon leaving Frenchtown Station and passing IV Tower, the tracks

crossed the upper end of Tinker's Creek and then plunged headlong into the longest rock tunnel here in the East, at that time. Almost immediately upon leaving the West portal of the bore, you arrived at Tinker's Station. It hangs somewhat precariously on the brink of Tinker's Dam and the name of this rather unusual bit of masonry was given due to the contractor's reluctance to build the dam in the first place. But the name stuck as my grandad was a man not to be easily swayed, he had that shingle hung over the station and to this very day it's known as Tinker's Dam.

Tinker's Dam offers the citizens of Frenchtown and surrounding villages a respite from their labors in the form of Baum's Grove on the opposite bank of the creek, which is accessible by the Red Covered Bridge.

Baum's Grove (named for the street on which Bill Rau lives in Pittsburgh) had a picnic grounds, a band stand where nightly concerts were held almost the year round. It was a favorite spot for spooners and many buggy and surrey reins were tied to a convenient sapling. There's one good tale about . . . well, never mind that!

The N C & F special picnic trains proved a boon to the little railroad and just before my grandfather retired they had a trolley line out there. Saturdays and Sundays were the busiest. Fare for the round trip—sixty cents!

One of the first locomotives to operate on the N C & F was a Saddle Tank job bought from the western firm of Varney and Company in Chicago.

This little locomotive served in a dual capacity as a freight and passenger engine for the two open end cars the road had, plus ten assorted freight cars.

A few years later the purchase of a Mogul and an American from the farmous Mantua Pioneer Locomotive Works in New Jersey added greatly to the expanding and prosperous railroad.

Being in a fertile farming district and apples the chief source of revenue, the N C & F was able to get the bulk of the business in that it had built several spurs to the orchards and packing houses.

Several competitors, the Northern Delaware and the Delaware & Chesapeake Railroad had fingers in the apple pie, but through a few "deals" the D & C was bought up by a locally subscribed bond issue and the Northern Delaware left the field to pursue more lucrative territory to the North. It's trackage was relatively small and was soon abandoned.

Although the N C & F was practically a locally owned firm, it could not sit back and rest on its laurels. The orchardists besides being growers, were astute businessmen, constantly in search of new markets for their famous Del-Mar-Va apples.

One day my grandad was called over to a conference of the officials of the packing companies. There were representatives of the railroad in equal number. The issue was simply this. The orchardists wanted faster service and a shorter route to both Southern and Northern markets. The N C & F already used Pennsylvania trackage to the North but the South was somewhat of a problem. They were given two alternatives, build a new line to the South or be bought out. Short and to the point but with typical business dispatch. There were few objections but the main fault was that the road could not finance the project alone just having bought equipment the year before.

Here again the packers were willing to help. What can be done when men get together in a spirit of cooperation can be easily seen. They were willing to foot half the cost if the railroad would put up the other half. As mentioned, new equipment had eaten quite a hole into the bankroll of the N C & F. Their other offer was to go to the three quart-

er way mark and the railroad take the last slice, BUT the third quarter was to be deducted from Del Mar Va shipping costs over a twenty year period. That the packers had faith in their business was enough for the railroad. Today, on the wall of the N C & F offices, in a neat black frame is the three paragraph agreement free of entangling phrases and simplicity itself.

The new road was built in record time and had long proven its value.

The panic of 1893 had but small affect on the N C & F and the Del Mar Va packers. Business dropped a little but these shrewd men weathered the blast, made their purchases wisely and came through surprisingly well in comparison to many larger firms.

Labor disputes were an unknown occurance. This village was not a Utopia but management and employee saw eye to eye. They each worked for the others mutual benefit, and from the top men down to the call boys, it was Charley Metcalfe and Clark Crosby.

Naturally the town grew, population increased—houses were built. The old historic house of 1750 was turned into a hotel and served frequently as a meeting place for various visiting officials of both companies.

As the population increased, the need for more equipment was evident.

The packers needed new equipment and contracts were signed with the Mantua firm to build six all steel refrigerator cars. These were the first all metal cars to be built and Mantua did a fine job my grandfather said.

Some new equipment was seen also on the N C & F. A high wheeled Mogul and a 4-4-0 with 80 inch drivers was almost unheard of but the management had it built and it's record has never been beaten on the South Run to Baltimore—Eighty miles in seventy eight minutes!

The town now had its own Fire Department in the Union Hose Co. and well over fifteen stores of many types supplied the needs of the townspeople. Smith's jewelry store still remained in his front parlor but the folks didn't seem to mind the walk across town to patronize "Smitty."

The Congregational Church was given a new bell and a coat of paint, courtesy of the railroad and the packers.

Jobs were not plentiful in Frenchtown but rarely was a good "hand" turned away.

Probably the most outstanding event in my grandfather's entire career was the arrival of the "gas buggy" or the automobile in July 1914. I was four years old then but was not allowed "down town."

On the board of directors of the railroad were Mike Romotoff, the blacksmith and Ashur Schmell, proprietor of the livery stable.

It was a hot afternoon and the monthly board of directors meeting was in progress. Charley Metcalfe of the Del-Mar-Va was also on the board. The item for discussion was the usual increase for ice cars and refrigerators and ice for same to handle the peak season business.

Speaking casually, Metcalfe said, "The new automobiles will be invading Frenchtown some day soon."

Both Mike and Ashur shot quizzical glances at each other but said nothing. Grandfather remarked that he had read about the new Packards and the Fords, but they cost quite a penny and as for himself, they were "out."

Mike said his business was good but he wouldn't object to learning a little about the workings of the "gas buggy," and Ashur went along with him on that too. In fact he said he had several orders for buggies and surries and four farm wagons and two delivery wagons and was expecting them to arrive any day from the Dyna-Models Wagon Works up in Oyster Bay where Teddy Roosevelt lived.

Ashur had no sooner finished speaking then the air was rent with the clanging of the Union Hose bell. Ordinarily this meant FIRE but no one could sniff smoke so we all rushed down the steps and along the wood walk to the spur by the freight station.

The day before, Grandad said he had noticed the picnic flat car was absent from its regular spot on the spur but gave it little thought beyond that. But now there ahead of him was engine #1 decked out in bunting and coupled to her was the picnic flat minus the seats,

3/16" SCALE ("S" GAUGE) AMERICAN FLYER "HO" GAUGE

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Real Smoke and "Choo-Choo" Sounds Synchronized with Train Speed

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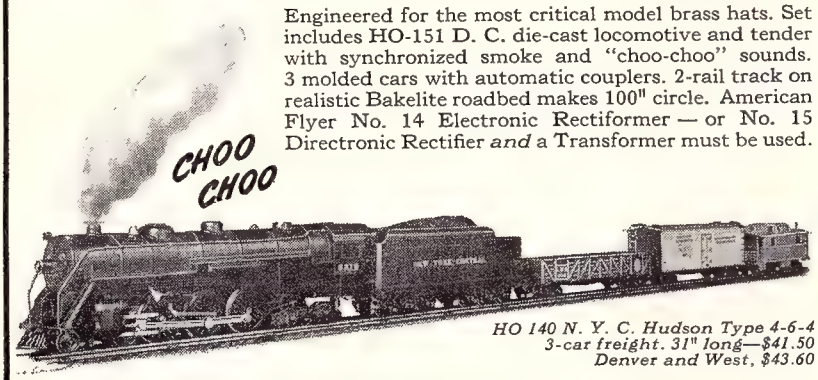

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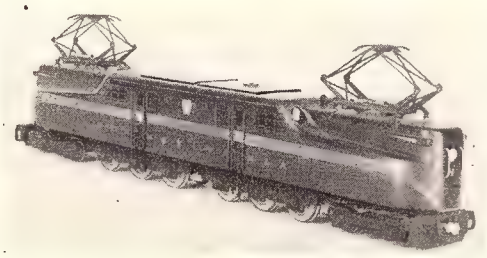

The New GG-1—$34.50

New—Completely Redesigned Belt and worm drive All-Brass Chassis

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ALL THE BEST PIKES RUN THE FAMOCO LOCOS

The New B-1

All Metal DC-71 Motor Operating Pantographs

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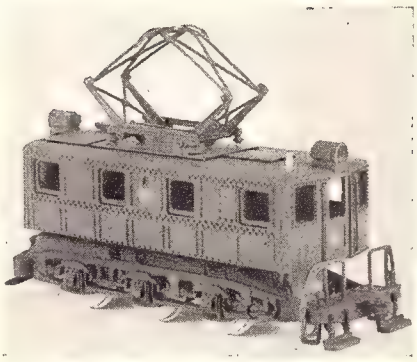
This powerful little loco includes all the salient features of our GG-1: ● 8 "oilless" bearings ● Stamped brass chassis ● Pittman DC-71 motor (for extra power) ● Cadmium alloy, die-cast front and rear pilots, completely detailed ● Belt and worm drive ● Die-cast body and side frames ● Operating pantographs ● Exploded view instructions.



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and in it's place were three shiny new automobiles.

Grandfather said he didn't dare look at Ashur and Mike but he just had to and there they were grinning from ear to ear. The crowd gathered rapidly and soon Charley Metcalfe was seen pushing through the mob and pulled himself up onto the flat car. Raising his hands for silence, the crowd became attentive.

"Fellow citizens" he said, "This is a great day for the people of Frenchtown. These new automobiles you see here are to be presented to three men in this great throng . . . "

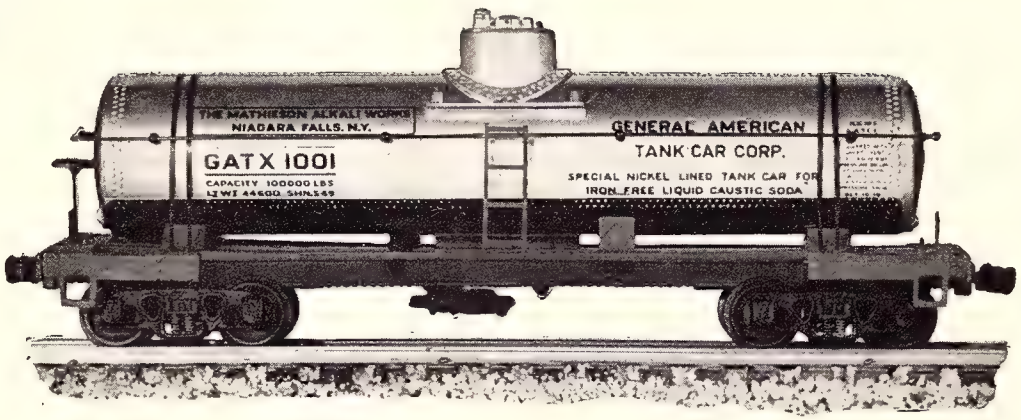
"He was really wound up this day," grandad said. "The biggest surprise came when Mike and Ashur and I got a car as a gift from the Del-Mar-Va as a gesture of good will for cooperation over the years."

"Mike and Ashur disappeared in the crowd but soon the strains of Mac Bride's Silver Cornet Band were heard and as they marched into the street by the station in their bright red uniforms, they were followed by Budwiser's eight-horse hitch beer wagon! Mike and Ashur joined Charley and I on the flat car and it was their turn to speak. Like two kids they said in one voice, 'the beer is on us!' and we shook hands."

"I tell you boy . . . that was the day!"

This then is the story behind the railroad. You can make up yours just as easily. Try it for more honest-to-gosh realism and overall appeal—it will add to the enjoyment you derive from model railroading.

Now!



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Four different deeply embossed metal foil wrappers—GATX (shown above) Texaco, Conoco and Shell Chemical.

by Silver Streak

SAM
The Trouble Man

This Department is for the benefit of all readers. Questions will be answered through these pages or direct by mail by one of the country's leading model railroad authorities. If you have any building kinks of your own, send them in.

ONE of the boys worked out a pretty good wrinkle for the screening in the front grill of the Diesel. He took a piece of square mesh copper screen somewhat wider than the area to be covered and by pulling on opposite sides collapsed the screen into tiny diamond meshes which really dressed up the job.

We found this worked fine for the folding gates in the ends of passenger cars. Black screen can be used or the copper screen can be painted and blown out before installing.

DUE to their hardness, broken taps cannot be drilled out of holes. However, they *can* be driven out of through-holes from the opposite side, stripping the threads as they come out. Usually there will be enough original thread left to tap and get retention for a screw. Otherwise, redrill for a larger screw and be more careful when you retap it.

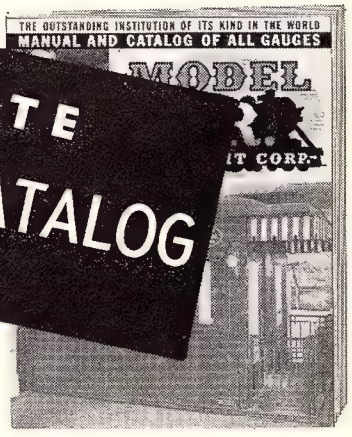
RIGHT here I'd like to take a moment to extol the joys of steaming under your own herald. Initial cost, including art work (based, we hope, on your own private brain throbs) is about the same as the cost of a motor—much less than a power truck. After you have had your herald plate made up, it's yours and extra heralds and lettering cost little more for your own road than for foreign lines. Also, the certificate of registration from the NMRA is a constant source of pride when other model rails or even non-rails visit you.

Your herald is your trademark. If you choose to standardize on yellow grab irons (as we did on the G.F.U.) or to stray far afield on the lines and fittings of a locomotive—none can say you nay. Again perhaps that Daliesque color work may be strictly non-reg on every road in the country, but if *you* say it's right—on your pike it *is* right. Verily, the private herald covers a multitude of experiments and even some improvements.

Actually you don't even have to own a pike. When we "incorporated" we had a lot of equipment left over from our second road but as a matter of fact, until very recently we didn't have a pike, all equipment was dismantled and stored.

IN fitting steam domes to boilers and parts to similarly curved surfaces, we have hit on a system which gives excellent results. The concave surface is roughed out with a file to a loose fit. A

COMPLETE MANUAL and CATALOG OF ALL GAUGES



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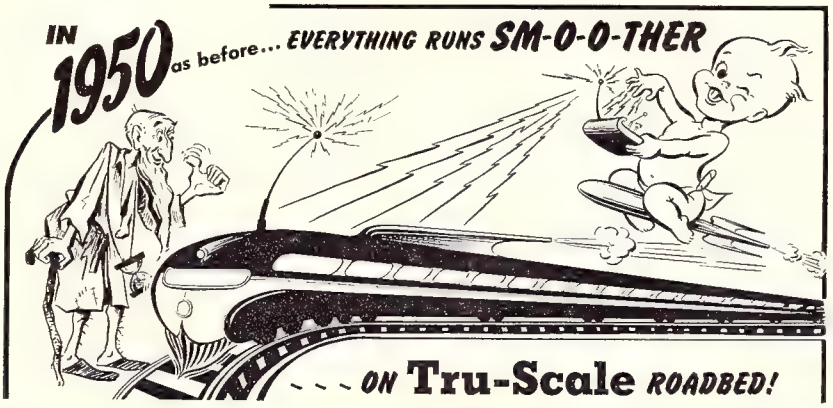

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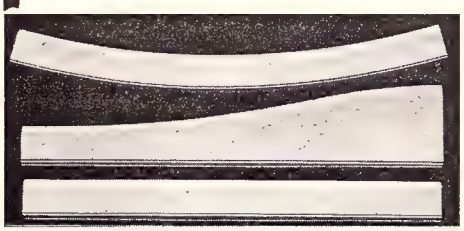

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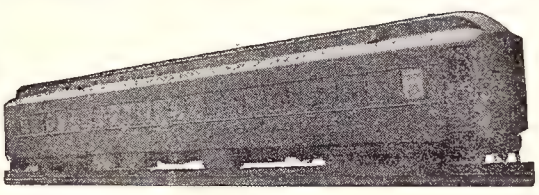

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piece of emery cloth is secured over the convex surface and the concave part is worked down to a perfect fit by rubbing on the emory cloth. If a wood lathe is available, a wooden dummy of your boiler can be turned and sheathed with emory at critical points. This then is used in grinding to a perfect fit for all parts such as manifolds, feedwater heaters, domes, etc. This deal can even be faked up with a hand drill and some kind of a tail rest.

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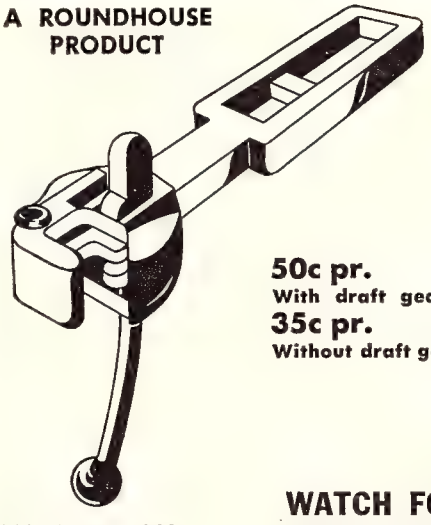

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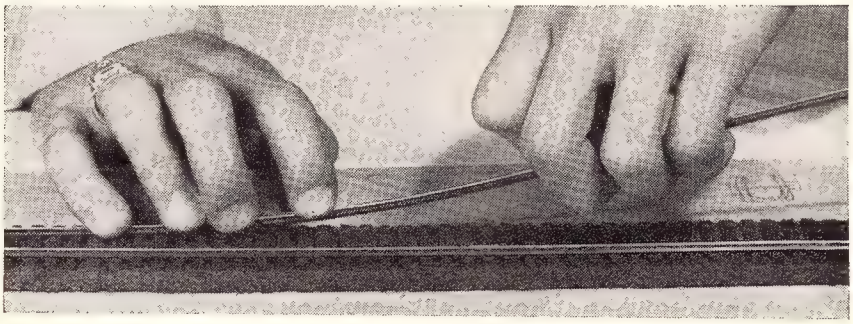

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ALONG THE TINPLATE TRACK

(*Continued from page 23*)

dent's Special." This was one of the very few names assigned to tinplate trains by the manufacturers which stuck, and which captured the popular imagination. It is probably the most famous train name in all tinplate. A few years ago in talking to some of the old Chicago AF officials, they told us that they regarded the choice of this name as an extraordinarily fortunate one, and that they felt great quantities of the train had been sold simply because of the attraction of the name. The potency of the name is demonstrated by the fact that fans almost invariably refer to the locomotive that hauled it not by its number, but as "the President's Special locomotive."

Recently, indeed, we have received several requests for the correct number of this locomotive. Actually there were three "President's Special" sets, with three different locomotives. A 1926 set with the O-4-O No. 4039, the 1927 set with the 4-4-4 No. 4687, and the 1928-34 set, which is the train most people have in mind, with the 4-4-4 No. 4689. The "President's Special" was, in the words of the catalog, " . . . our conception of what a train built especially for the President's use should be." In 1928 American Flyer even went so far as to name their locomotives, and to etch special nameplates for each one. The name of the 4689 was "The Commander," but no one remembers it today. Indeed, the supply of plates came to an ignominious end. They were used to fill in indescriminately on various late freight cars and even other units!

American Flyer was the exception to the prevalent favoring of the NYC class S-1, S-2, and S-3 locomotives in tinplate. They made a few small models in O gauge, but none in Wide Gauge. Instead they favored another, slightly later NYC electric type, the 4-4-4-4 box cab model. The AF 4689 and related models did for this class what the Ives 3243 did for the earlier type. AF's favorite proto-

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types are the locomotives with the cylindrical sand tanks carried out on platforms over the front and rear trucks. AF reproduced their tanks in some form on most of their models.

The original AF Wide Gauge line of 1925 consisted of but two locomotives, the 4000 and the 4019. These were 14½" O-4-O's and the only difference was that the 4000 had one headlight and the 4019 two. Both were equipped with what AF termed their "automatic reverse," which was not a remote control as one might gather from the name, but simply a track trip reverse. The 1925 Wide Gauge trains were called the "All American." The cars were 14¼" lithographed units, baggage, Pullman and observation. American Flyer was still putting out trains without observation cars at that time, and the 4000 came with a baggage car and Pullman, the 4019 with a full three car train. The cabs of these locomotives were basically the same used on NYC types throughout the entire era of Wide Gauge. The earlier cabs, however, carried but two nameplates to a side. Later models, after 1928, had three.

Mention must be made of the AF Wide Gauge "automatic coupler." Like most of the "automatic couplers" of the 1920's, under the right circumstances, with the couplers lined up just so, and at just the right speed, they would occasionally actually couple automatically. Unlike the Ives and Lionel couplers, however, the coupler was different at each end of a car, so the rolling stock had to be arranged with the proper ends of each car adjoining each other. Locomotives came fitted with the hook unit at each end, which made double-heading impossible, unless some special makeshift was used.

American Flyer also made much of their equalized Wide Gauge trucks with "highspeed three point suspension." Somehow equalized trucks have never won much favor with 2⅛" gauge Tinplaters. We have heard many users claim they actually derailed more frequently than non-equalized trucks, although the equalization theoretically reduced derailments. Be that as it may, in 1931 American Flyer quietly introduced a similar appearing non-equalized truck, originally intended only for the less expensive passenger cars. Eventually, either because it did ride more satisfactorily or was cheaper to produce, this truck came to be used on all of the eight wheel cars.

1926 saw the appearance of the first "President's Special," with the O-4-O No. 4039 locomotive, similar to the 4019 but with a longer frame and more detail, and 19" eight wheel tan lithographed baggage car, Pullman, and observation. The 19" Wide Gauge AF passenger cars were pretty close to the most realistic and best proportioned tinplate 2⅛" gauge rolling stock. Their only near rival was the Boucher Blue Comet series. The 19" lithographed AF cars of 1926 and 1927 were also, incidently, the largest lithographed cars ever manufactured. The illustration, albeit partially cut away, conveys a fairly good idea of their lines and

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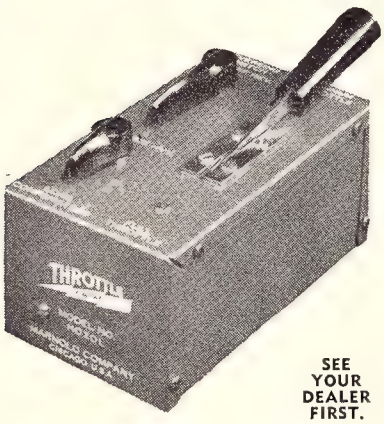

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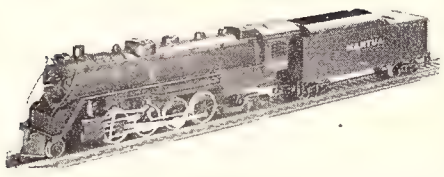

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detailing. It shows a 1927 car with twelve wheels. It was in that year that the AF Wide Gauge line really grew up with a bang, and we will discuss the models which accompanied and followed this maturing, next month.

Many readers of this department will, we believe, be interested in two recent contributions to tinplate literature. One is the "Model Train Collector's Photo Album" (Don LaSpaluto, Bellaire, Queens Village, N. Y., $2.50), a sixteen page compilation of pictures of tinplate trains and conversions, including many interesting old time models. The second is a series of two articles on Eugene Beggs and his live steamers, by Walter A. Lucas, which appears in the August and September issues of *Railroad Magazine*.

Scale Locomotive Plans

The American Locomotive Company have prepared a pamphlet on their 1500 HP Road Switcher. This includes detailed plans shown in O gauge with prototype dimensions, side, front and end photos and a description of parts. This material is being made available to all model builders at no charge. If interested, contact the American Locomotive Co., Education Dept., Locomotive Division, Schenectady 5, N. Y.

"The Capital's Club"

Important Notice

Slight changes have been made in the date and time of the 1950 Metropolitan Society of Model Engineers Open House.

It is the first anniversary of their Golden Spike Ceremony and second postwar open house. It will be held in Room 457, Union Station, Washington, D. C., on January 13th and 20th, 7:30 to 9:30 p. m., and January 7, 8, 14, 15, 21 and 22, from 2:00 to 9:00 p. m. No admission charge although contributions are welcomed.

The show includes the Metropolitan Southern RR in O gauge, Metropolitan Eastern RR in HO and the Crown City Traction Co. in HO.—All in operation.

Special showings for visiting clubs may be held on other dates if advance arrangements are made. (Two months' notice suggested, to allow for notification of all members in both clubs.)

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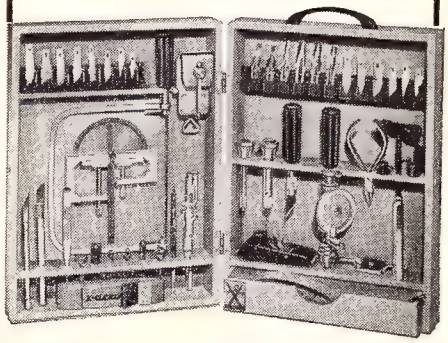

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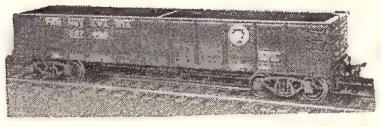

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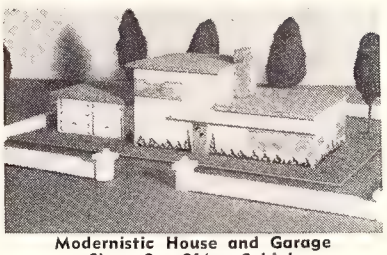
NOT THE BIGGEST

(*Continued from page* 11)

formance and cleared the 17 days with a greet light. A Mr. Harold Snell, better known throughout the model fraternity as "Cap," offered his services for the duration. The Club set him up with a room and cot (Army) underneath the layout to occasionally rest his tired tootsies. The grounds were well posted for the drawing of maximum crowds. Two free fair programs listed our location. The Fair P.A. Systems helped tremendously too. To top this, our Empire welcome signs were located in the outdoor ½ inch scale layout of Herman Howard's Santa Fe exhibit. "Cap" had his hands full—full of people. Our personal thanks to this man who has done such a wonderful job for our Club, together with the benefits received by the Model Railroad Industry.

Last, but by far the most important of making this show a success, was the group of men known as Circus Model Builders and Owners Association. A replica covering an area approximately 12 x 30 ft. of the Al. G. Barnes Circus was reproduced in ¼" scale. And a perfect job, too. Everything from the slicker behind a tent with a three-shell pea game and sucker onlookers to the big top itself. Thousands of pieces of equipment together with many times that in hours, makes this exhibit one of the world's outstanding. Reproduction of the old steam calliope in various tunes held the



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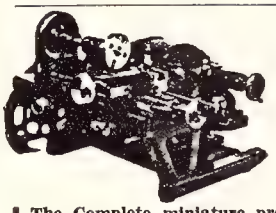

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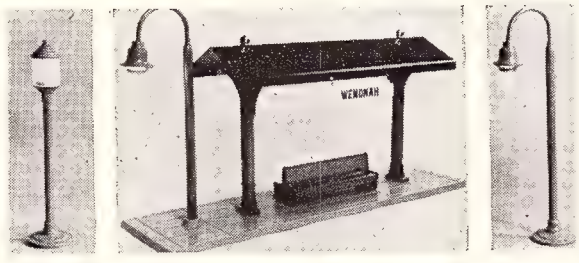

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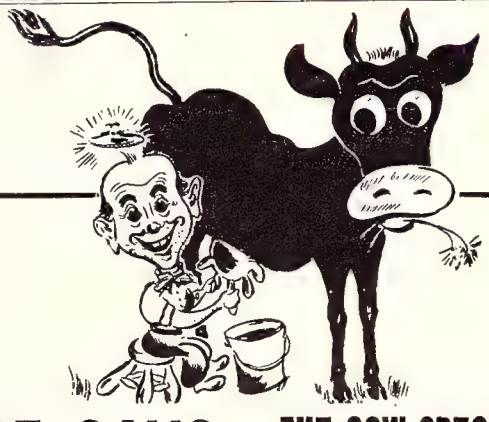

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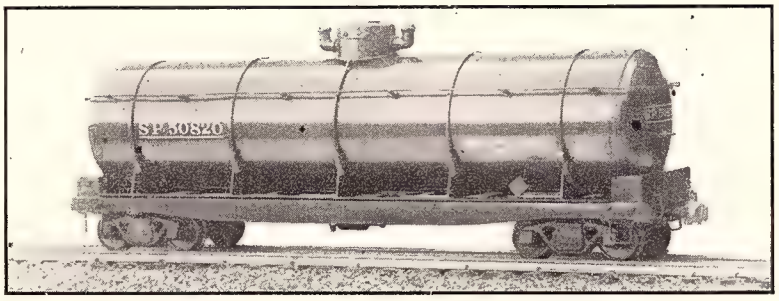

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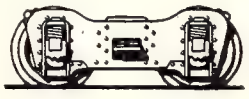

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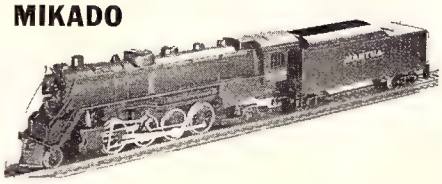

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public spellbound with memories. Our arms are outstretched in welcome sign for the return next year of this organization—these men are truly modelers.

Now a little about the club itself. Maximum members 20, with associate membership open only to those who have left regular membership in good standing. Application questionnaire is average with emphasis on willingness to work. New members are on 60-day probationary period for final acceptance.

The layout has the following characteristics. Maximum grade, 1½ per cent. Minimum radius 72" with majority ranging from 96" to 120" radius. About 2800 feet of track now in use with a little more to be added. Approximately 45,000 feet of wire is in for control and lights together with 11 telephone stations. 110 rheostats are used for control of main line only, more in passenger and freight yards. The pike is divided equally into six divisions, each with separate control panel. Due to the uncertainty of members present during Fair Days, a control tower was erected at East end of layout with one panel 4 x 12 ft., duplicating the six divisional panels. One operator, by sight and 270 miniature occupancy lights, can operate to a great degree of safety four or five trains during this Fair period. Balance of members present needed urgently on floor to answer questions.

The stationary property is owned jointly by members, with rolling stock owned individually. This year, not counting visiting equipment, members had about 150 freight cars, two trains of streamline equipment, two trains of varnish and 23 pieces of various pulling power. This does not include another 18 locos, 60 freight and three passenger strings that are still three-rail. Three more pieces of locomotive power are now under construction for next year's Fair, together with numerous freight cars.

Meetings are every Monday evening with the second Monday night open to the visiting public and other rail fans with their equipment. With a scale time clock recently installed, plans are for time table operation with two-way traffic on same line. A minimum of 11 stations must be occupied by the same number of wide-awake men for this procedure.

No turnstiles are in use for actual count of visitors during our last showing but Fair attendance for the 17 days ran well over a million. Our very conservative guess is that upwards of 500,000 visited our layout, not counting the hundreds that come the second Monday evening throughout the year. No wonder our chests are sore the year round—we are not the biggest but we boast the largest attendance.

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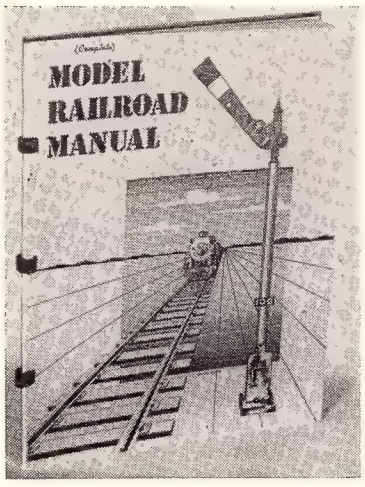
Both Constructive and Informative

The *"Complete Model Railroad Manual"* is a cross-section of projects described in old issues of the Model Craftsman. It contains a series of practical, yet informative, step-by-step articles covering many of the stumbling blocks confronting the railroad modeler. It is complete with detailed plans, photos and drawings for building cars, locomotives, structures, electrical hookups. It describes in detail, good construction procedures—building methods that are simple yet produce realistic models.

Some of the projects include: Building a 2-6-0 in O gauge, an Atlantic in HO gauge and a 4-8-4 in HO—these are complete with photos. detailed plans and construction method. Plans have been included for twelve freight cars—these are complete in every respect, even to perspective views. Then there are plans of switch machines, working signals, various lighting hookups together with many electrical hints—all prepared in an easy-to-understand fashion. Another section of this book covers the do's and don'ts along the right-of-way, once again vividly illustrated with plans and photos. This section includes several types of tunnel portals, bridges, culverts, trestles and way-side structures.



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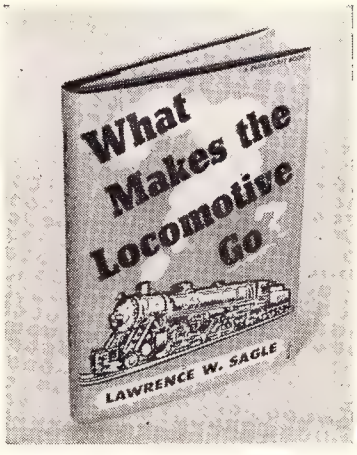

Who hasn't wondered *What Makes The Locomotive Go.* We all know that the power behind it is fire and steam, yet most of us think that the complicated parts of the mighty Iron Horse are far beyond our understanding. Out of the pages of this book comes the answer in simple, pictorial fashion that everyone can understand.

The author, Larry Sagle, has taken the locomotive apart and explains its various complicated operations in short, simple paragraphs and comparative pictures, explaining the principles of each part and comparing them with simple, well-known articles such as the bicycle pump, tea-kettle, etc. In this unique manner, the author explains the complicated workings of the locomotive in such a graphic way, that anyone can understand it.

What Makes the Locomotive Go is a great contribution to the model builder or layman who is interested in knowing the principles of the steam engine. It is written by a seasoned railroad man and has been double-checked by experts. It is a very informative book yet furnishes real entertainment. The 120 pages have a heavy cloth binding and cost only $2.75.

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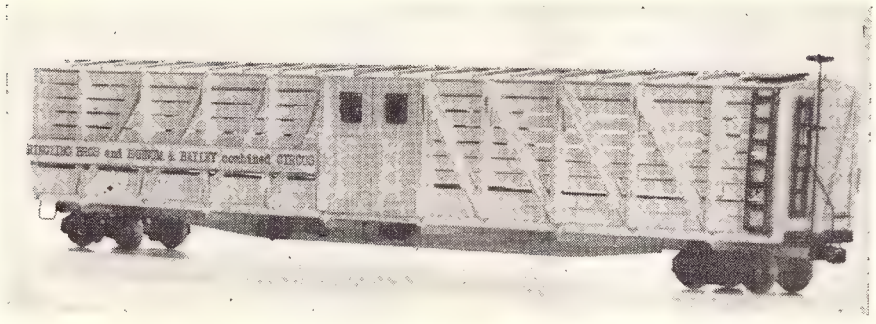
Southern's Seventy Foot Circus Stock Car

Kit of the Month as built up by the author, an ardent HO enthusiast. This kit of wooden construction offers many detail possibilities and can be assembled with a minimum of tools.

by DAVID A. DEARMOND



The built-up model, ready for trouble-free operation. Note individual side planking.

ONE of the latest kits to be produced by the Southern Tool & Mfg. Co. makes up into a long stock car used by a circus to carry animals. It is part of the specialized rolling stock which, in the big circus, is organized into four sections for loading and traveling.

Loading starts while the show is still going on. The first section or "Flying Squadron" carries the group who prepare the next lot for the circus. It will include a layout crew with its equipment and service departments, also the necessary trucks, horses and elephants to move heavy wagons or to haul on ropes. The menagerie with its entrance or "front door" travels in this section. The third section is actually loaded second, however it leaves and arrives third. This carries the contents of the big top and some smaller loads. The second section carries the canvas and poles of the big top, side shows and lesser bulky equipment. The fourth section has sleeping cars for the performers and the "Big Brass." The various wagons are generally loaded as they arrive at the siding and are selected to fill the car being loaded. They are marked on all sides with their loaded length and each is numbered.

Until recently, the circus people rode in World War I wooden hospital cars. Now, there are around 25 modern steel war surplus hospital cars each with kitchen, hot shower—even a porter. Most of the folks have an open bunk for a home—that is, one of a triple decker. The circus president has a private car, lesser executives occupy staterooms. All in all, the four trains have about 48 flat cars, 10 stock cars and 25 coaches. This Southern kit will help you get one of those stock cars down to HO gauge.

My impressions on opening this kit were wrong—it looked difficult to assemble simply composed of wood strips that could be made up on the kitchen table. Actually, I found that it was the same process of sanding, gluing and painting that had finished my previous kits. And as for the strips that looked easy to duplicate—let's examine the kit in the photo. It shows the kit laid out in its general order of assembly according to the instructions.

Starting clockwise at one o'clock, there's the familiar top, floor and ends plus four side pieces that support the doors. Also there are two pieces that make up the center beam under the floor. One of these has a "U" cross section, is ¼" x ⅛" and has six holes locating trucks, couplers and an air line. All this wood is trimmed to size and needs little sanding or cutting.

Next are three pieces of roof rib stock, .025" x .020", then three pieces of roof walk stock, .020" x .068". Roof walk is built up of three separate strips supplied with kit.

The fan of pieces is of side plank stock which averages .025" thick, 20 pieces in all. Continuing around, there are "T" section pieces also "L's." I don't see how any modeler could make these shapes without a special machine—certainly it's not a kitchen table job. All in all, the kit is complete in every respect with die cast parts of soft metal and trucks with good rolling qualities.

An essential tool for assembly of this kit is a *sharp* knife or razor blade to cut the wooden stock cleanly. If you happen to have a hand motor tool fitted with a circular saw, it will help in trimming glued pieces on the roof, sides and bottom. Of course you should become familiar with the instructions and the drawings, which incidentally, are good and to scale.

Very little sanding is required on wooden parts but be sure to get a good surface on ends of top and floor or the open grain will paint up rough. Use care in sanding roof walk planks if you want them intact. In assembling, I broke two, however they glued on ok. I assembled the walk with just a little unevenness—the kibitzers say it looks very *prototypical*. I wouldn't know. You'd better glue on the center strip first to facilitate lining up.

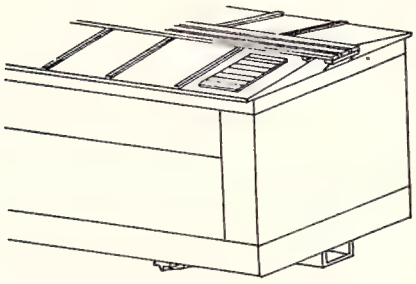
You can have an easier time by deviating from the instructions slightly. I left off the bottom beam until after the top was finished—this gave the car a flat base to rest on while the top was being built up. Before starting on sides, consider if you want doors that open on tape hinges or not. You can make a stronger job by running the side planks the entire length of the car and it helps to get proper spacing of the planks. In any event, since the doors have to fit between two vertical "T" pieces, I found it easier to glue the doors in place and fit the "T's" then to continue with the other "T's" and "L's" on the sides. Some screen should be put in the doors—none was furnished so I used plastic window screening. The mesh is a bit too large for the scale in drawing, but appears ok. Smaller holes would get clogged with paint.

Before installing the "U" beam on bottom, clean out the channel to insure free swing of couplers. Notice the holes drilled for air line—that beam goes on in just one way—check drawing to see that brake wheel and air line in question are in proper order.

My friend Tony who manages the hobby supply in the village is my advisor on painting. He furnished the undercoating and yellow turpentine base paint for the job. The instructions say, in effect, paint it. I think it helped to thin the material slightly and be careful on the all-over undercoat and painting. You can easily clog up slots between side planks. I tried both a brush and a spray—the spray worked best. The metal pieces were put on and then painted—next time I'll paint them first. The ladders seemed a bit oversize and should be tried for fit, especially on ends.

I wanted a name on the car that was authentic and looked through books and

magazines to find samples of lettering. After thoroughly cleaning keys of typewriter, I typed "RINGLING BROS. and BARNUM & BAILEY combined CIRCUS." So, for the sign, paint some

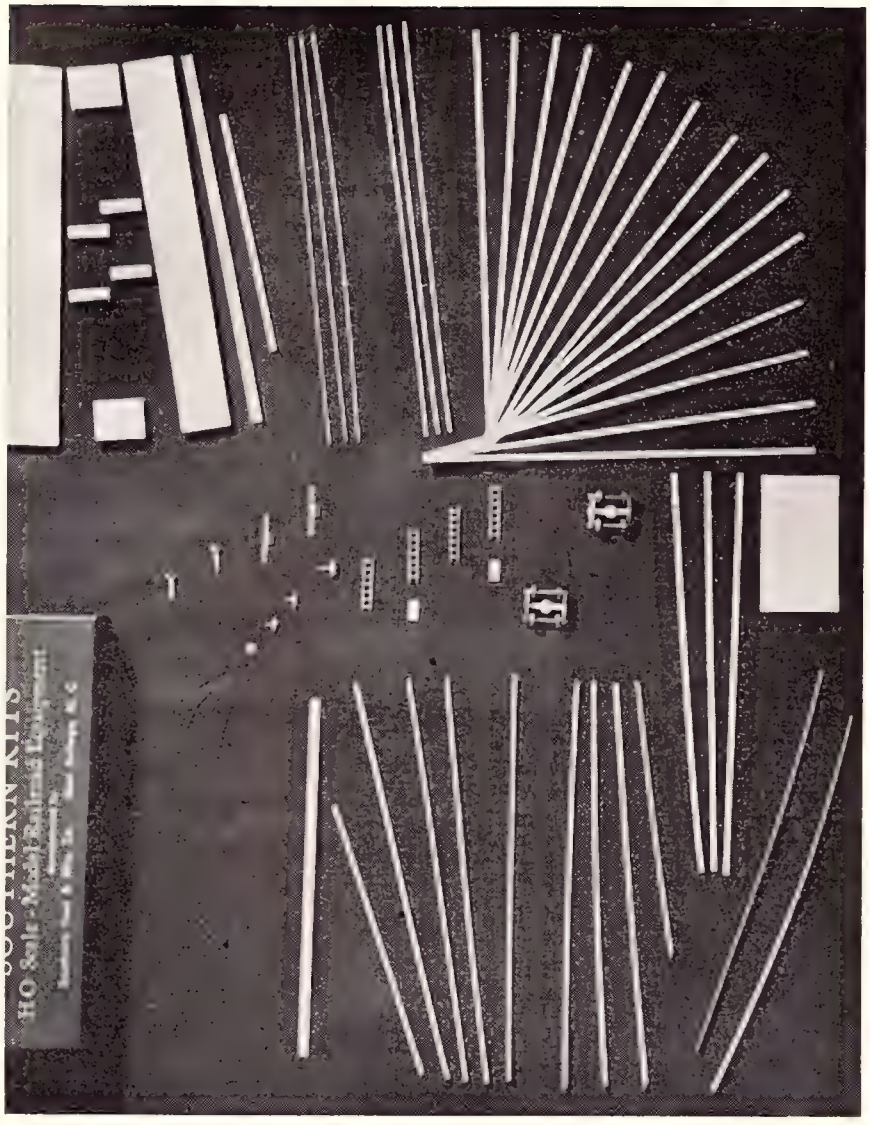


Perspective view of car end

stiff paper yellow and allow to dry thoroughly. Type on name, cut out and glue to board.

The couplers look better if you drill your own hole in them for their pivot pin. The way they come they hang out too far and have a decided droop. If you plan to operate with automatic couplers, you can trim away the beam and end sill coupler pocket to fit. For the present however, I changed the coupler furnished by drilling a new hole 7/16" from business end of coupler. This moved it back into the socket about ⅛" and it now looks *installed* instead of *festooned*. It couples ok. I suspect it will not have enough swing for real tight curves but the coupler shank can be trimmed to provide it.

This is a nice car, ten inches long and gives evidence of careful planning. The serious modeler can put no end of detail on this car although I found it looked very good with some of the little touches omitted.



Parts of kit laid out in general order of assembly.

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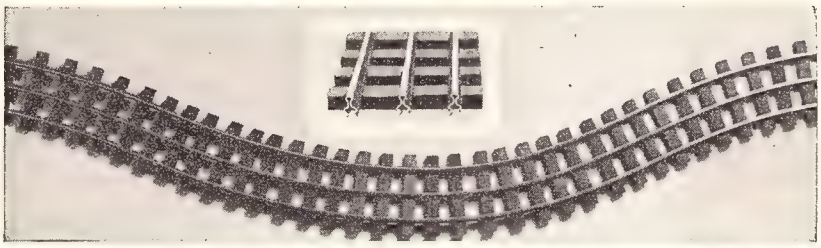

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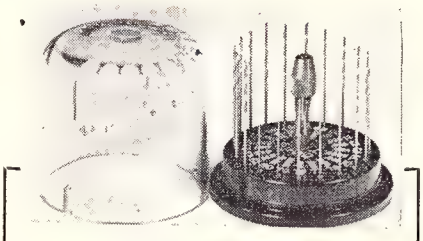

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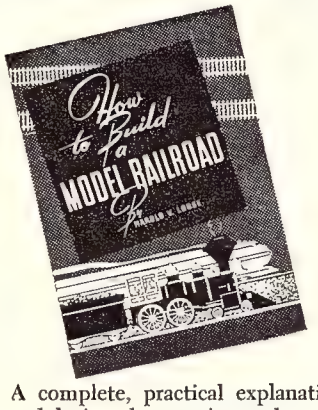


HOW TO BUILD
A MODEL RAILROAD

This third Edition of HOW TO BUILD A MODEL RAILROAD has been completely revised and is right up to present day standards. It has many new plans and illustrations (more than 75 are included). "How To Build" will answer all the questions asked by the man who is starting a miniature railroad layout as well as the problems encountered when a model railroad has gotten underway.

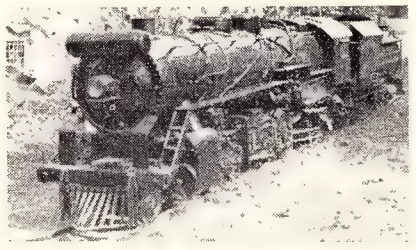
A complete, practical explanation of Model Railroading including track design and laying, locomotive and car construction methods, scenery construction tips and general information of model railroading to date.

Whether you are a beginner or an experienced builder, your library is not complete without this book. Price, postpaid, is $2.00.

RAILROAD MODEL CRAFTSMAN **RAMSEY, NEW JERSEY**

A Live Steam Mikado

WHAT do model railroad manufacturers do in their spare time—here's a typical example. Earl Gardner of Rochester, N. Y., is the manufacturer of Gargraves trackage and, to keep thoroughly familiar with the current demands of model builders, runs a hobby shop devoted exclusively to railroading. During his *spare* time over the past eight years, he has built a beautiful 2-8-2 live steamer. This project was a major undertaking. The engine and tender measure *eleven* feet long, overall height is 2'1", width is 1'4" and the track gauge is 7½". Boiler contains thirty 1" tubes and is coal fired. The locomotive will operate on 45 to 50 pounds of pressure, the regular operating pressure being 120 pounds. It uses Walschaerts type valve gear with power reverse and carries a steam turbo electric generator although not coupled up at present. Center drivers are not rigid, thus enabling the outfit to operate on a 50' circle—all drivers are sprung. The loco has a Hoffman Boiler, Perberthy injector and automatic lubricators to cylinders. All parts have been made of carbon steel, nickel steel, bronze, etc., in exact accordance with the prototype, a Mikado type.



At the present time Mr. Gardner has 150 feet of track laid and in operation, rolling stock is made up of one flat car. Due to lack of rolling stock, the locomotive has never been passenger loaded to capacity. One thing is certain though, it is a mass of power.

Los Angeles Hobby Show

PLANS are now well underway which will make the 1950 Los Angeles Hobby Show an assured success. Special areas are being devoted to Model Railroad Manufacturers and all other hobbies. A program of inspection and elimination has tended toward one of the finest aggregations of crafts and hobbies ever assembled under one roof in the competitive area where private individuals vie for ribbons in their respective fields. Activity programs are being built to completely parade the wares of commercial hobbyists and will be located so as not to disturb those exhibitors who want freedom from noise and an opportunity to verbally exploit their products.

Dates for the show are March 24 through April 2 and it will again be held in the Shrine Convention Hall.

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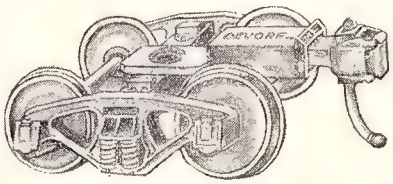

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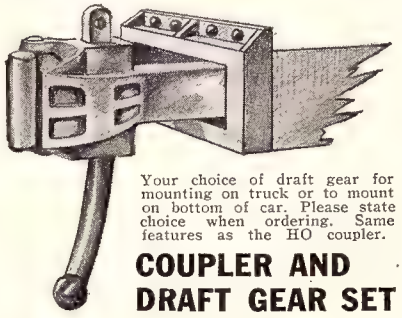
OLD TYPE DRAFT GEAR **15c** pr.

CHECK THESE NEW FEATURES ONLY FOUND IN DEVORE COUPLERS

New shank design, can be mounted in draft gear, or without draft gear to car or loco, couples on curves or over switches, couplerhead follows center of track at all times, knuckle stays open when not engaged, insulated from truck and car, works over fixed or movable ramp, hooks with most dummies, simple installation, draft gear housing fits all DEVORE couplers and VARNEY plastic dummies and is to scale.

Get Them at Your Dealer or Send Direct to Factory
No C.O.D. Minimum Order $1.00
We Pay the Postage
Enjoy Coupling at Its Finest
GET DEVORE COUPLERS

The NEW 1950 ASSEMBLED O GAUGE AUTO COUPLER AND DRAFT GEAR



Your choice of draft gear for mounting on truck or to mount on bottom of car. Please state choice when ordering. Same features as the HO coupler.

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Coupler less draft gear **50c pr.**

Add more life to your pike! Natural growth from California mountains, carefully processed, dyed and coated to give natural appearance. Inexpensive, long-lasting, washable, in HO, O, and extra large.

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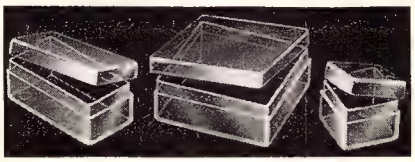

Offer maximum protection with complete visibility for small parts, etc. You will find innumerable uses for these convenient transparent boxes.

A (15/16x15/16x¾") 20 for $1; 100 for $4.60
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#6 HO gauge.
#7 TT gauge.

Please ask for lists by number.
Return postage is appreciated.

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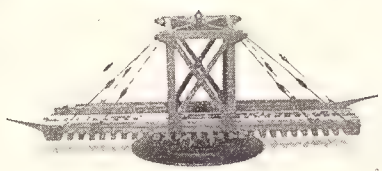

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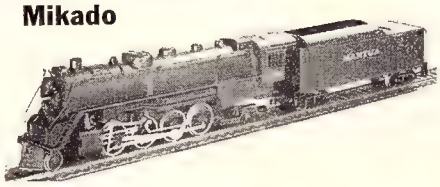

Complete—
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MANTUA

SPECIAL NEW YEAR'S OFFER

To get the most enjoyment from model railroading during the coming year, you'll need a complete file of authentic material covering all phases of the hobby. The Back Issues of Model Craftsman listed below will fill this demand to a T. They're packed with constructive material covering a variety of projects in all gauges. This type of material never gets out-dated, it will afford you many hours of reading and building pleasure at a minimum expenditure. Here's an ideal opportunity to stock your model railroad library at economy prices. All magazines are complete, in good condition and will be shipped on a first come, first served basis. Quantity of magazines limited so post your order early!

STEAM TYPE LOCOS

Southern Pacific 4-4-0—Full size HO drawings and complete building method. (Austin) Aug. through Nov. '45. Four issues, complete, 75c.

Boston & Maine Atlantic 4-4-2—Scale detailed drawings and bldg. method. (Austin) Aug. through Nov. '47. Four issues, complete, $1.00.

Low Wheeled 4-6-2 Pacific. Detailed drawings in HO, bldg. method. (Barkley) July through Nov. '44. Six issues, complete, $1.50.

Pere Marquette 0-8-0. Full size HO drawings, bldg. method. March and May '44, complete, 35c.

Boston & Main Mogul—Detailed drawings, bldg. method (Austin) March through June '47, complete, 75c.

Live Steam Union Pacific Articulated in ¾" scale—complete, eight issues, $3.50.

STRUCTURES

Engine facility projects in HO with complete plans and building methods. Includes Roundhouse (March '47), Coal Tipple (April '46), Coal, Sand and Gravel Trestles (May '43), Ash Handler (Nov. '46), complete, four issues, 75c.

Few pikes are complete without a bridge, trestle or tunnel. The following articles tell you how: Bridge Abutments (Feb. '44), Culverts (March '44), Girder Bridge (March '46), Lift Bridge (Jan. '44), Truss Bridge (June '44), Trestles (April '43). These six issues complete, $1.40.

Right of way structures, complete plans and building method: Combination Stations (Feb. '45), Old Time Station (Dec. '44), Watch Box and Tool House (Dec. '44), 3-dimensional backgrounds (Dec. '43), Working Waterfall (Oct. '46). Five issues complete, $1.00.

This month we have a special on those issues published during 1946. These issues afford you the finest in model railroading literature and at bargain prices. They too are full of valuable data covering all phases of model railroad construction. Below is a partial index of the feature material.

JANUARY
Erie Caboose
C.V. Loco, 2-10-4 (HO)
Realistic Tinplate Cars

FEBRUARY
How to Build Tunnels
Trolley Freight Service
C & NW Pacific (proto plans)

MARCH
Southern Pacific 4-4-0 (HO)
Bridges
Detail Design Data

APRIL
Wiring Circuit
HO Coal Tipple
Double Cab Work Car

MAY
Lighting Trains & Bldgs.
Terminal Throat
Pacific Electric Car

JUNE
HO Wood Box Car
Train Control Rheostat
B & O Mallets

JULY
V & T Passenger Station
HO Wood Gondola
Mother Hubbard 4-4-2

AUGUST
Pennsy E-6 Atlantic
3-Way Switch
Scenery Foundation

SEPTEMBER
Suburban Double Ender (2-6-2)
Express Reefer (HO)
Simple Interlocking Plant

OCTOBER
Loco Traveling Crane
Short Baggage Car (HO)
Working Waterfall

NOVEMBER
Railroad Steam Shovel
Worm Drives (O)
Pennsy 0-6-0 Switcher

DECEMBER
Two Rail Signals
Four Wheel Crummy
Complete Farm

As mentioned above, this is only a partial index—there are many additional articles of enduring interest besides the regular monthly features such as Along the Tinplate Track by Louis H. Hertz, and traction articles by Bill Schopp. The complete year 1946, twelve issues, sold for $3.00. The special clearance sale price is $2.00, all issues in good condition. (For other specials, see ad in February issue).

Complete year 1944—12 issues—$2.50 **Complete year 1947—12 issues—$2.50**

Railroad Model Craftsman **Dept. B150** **Ramsey, N. J.**

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JACK COLLIER'S "Toys for Men"
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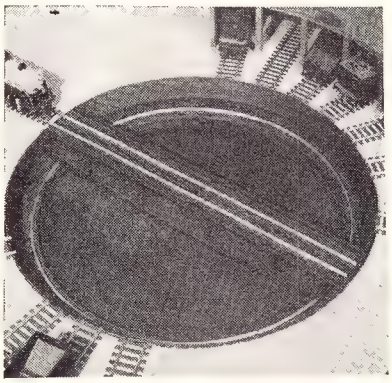
CALIFORNIA — PASADENA
Pasadena's Hobby Center for Trains
Planes - Boats - Racecars - Supplies
ACE MODEL SHOP
1655 E. Colorado St. Pasadena

Hobby Exposition

A World Hobby Exposition will be held in the Chicago Coliseum February 19 through 27. All forms of hobbies will again be featured with model railroading predominating. This year, many new features will be added to the railroad section in addition to the workshop—a display set aside for amateur model builders. In this exhibit, commercial kits ranging from the simplest freight car to deluxe locos will be assembled. Kits of all types will be in various phases of construction. The two B & O portable layouts will be on display together with other model pikes in every gauge. Manufacturers from all over the country will display their equipment and will be on hand to answer all questions and to explain the functions of their products. Many new features yet to be announced will be included making this show a must for all railroad modelers, whether beginner or vet.

Automatic HO Turntable



A completely automatic remote control turntable is now available in HO gauge. Starting, stopping, transmission of current and matching of polarity are all automatic and accomplished by a simple yet durable mechanism in the turntable itself and in the panel controller. The turntable is 14" long, 1¾" wide and accommodates all standard locomotives except an articulated. Mechanism includes bronze castings, ground and polished drill rod shafts, one controller and a Pittman DC-60 motor. The pit fits into a space 15" square and extends 2" below surface of layout. Complete wiring instructions are given which are simple and easy to follow as well as full building instructions for the turntable pit.

Refer to J1150. See page 49.

Complete Home Workshop

A complete Home Workshop in one compact unit is now being introduced designed especially for the home craftsman and hobbyist. Briefly, the unit includes motor, bench, universal machine,

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market news WHERE TO BUY new products

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ILLINOIS — CHICAGO
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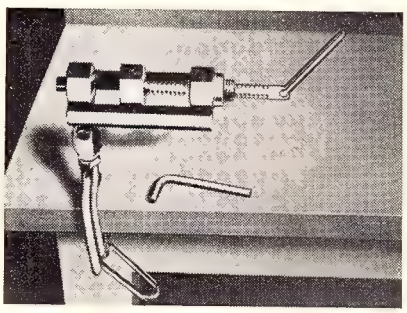
complete accessories and tools and is said to do the work of at least seven machines, including turning, drilling, sanding, jig sawing, routing and mortising. Altogether, it will perform 44 operations on wood and metal and is completely equipped for 36 additional operations without any other tool. For descriptive folder, Refer to J1250. See page 49

Latest in Adhesives

An entirely new type of adhesive is on the market unique in that it does not shrink or swell upon hardening. Strength tests have often proven the adhesive to be stronger than the materials bonded. Can be used for metals, glass, plastics, wood and even rubber. Proper use of adhesive demands clean surfaces, however no primer coating or open assembly drying is required. The surfaces to be bonded are coated with the adhesive, brought together and held with pressure sufficient to maintain a uniform contact. Material is supplied in two parts, the composition and a liquid activator which are mixed together immediately prior to use. Refer to J1350. See page 49

Free Positioning Vise

A new vise is on the market which may be positioned at almost any angle to make gluing, soldering and fabricating easier. It is simple to operate, a turn to the left opens the jaws to full capacity—



to close, the jaws are set against work with pressure bar handle, then a quick quarter turn locks the vise firmly. The

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market news WHERE TO BUY new products

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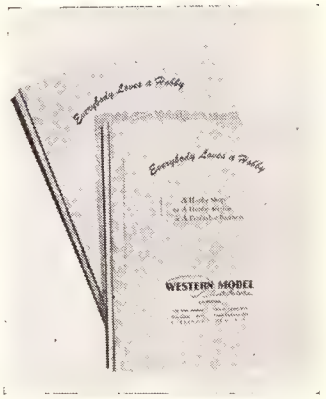
vise body can be positioned anywhere within a 360 degree circle and within an arc of 180 degrees. The entire unit is heavily nickeled and cadmium plated. Open capacity is 2¾", width of jaw 1¾", depth of jaw 1½", overall length 6" and overall height is 1⅝".

Refer to J1450. See page 49

New Merchandising Plan

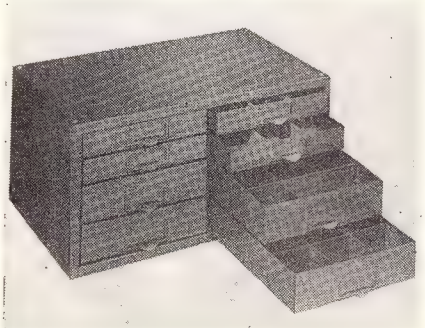


Carefully integrated *Opening Stock* order selections are featured in two new catalogs issued by Western Model Dist. of Oakland, Calif. One of the catalogs is directed to the variety store field as well as to hardware and syndicate stores. The other is directed to model shops of all types. Both catalogs provide departmentalized and complete breakdowns of minimum opening stock—each division is planned to equip a store with well balanced orders of completely current merchandise. This new plan is finding instant favor among Western dealers and is a notable outgrowth of 16 years of specialized distribution.

Refer to J1550. See page 49

Hobbyists Cabinets

Small metal cabinets are now available which are ideal for all model building purposes. One is a six-drawer cabinet, four drawers being 2½" deep with no



dividers and two drawers 1¼" deep with dividers for twelve sections each. The second is an eight drawer design with four drawers 1⅞" deep and four drawers

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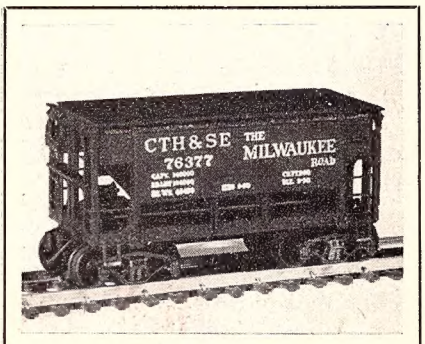

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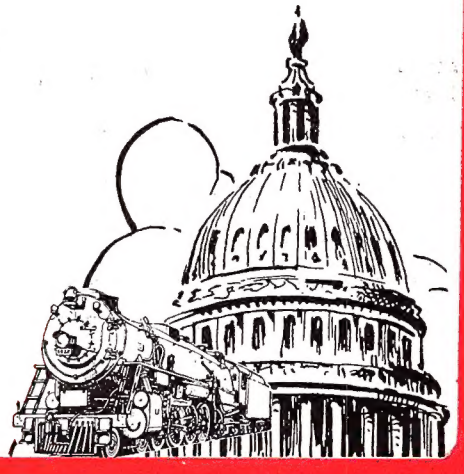

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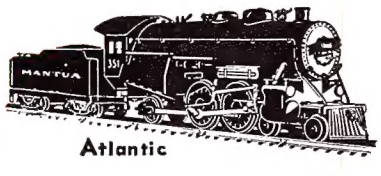

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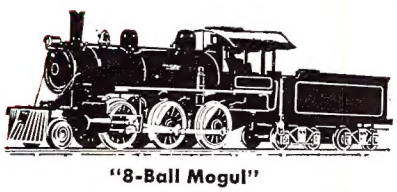

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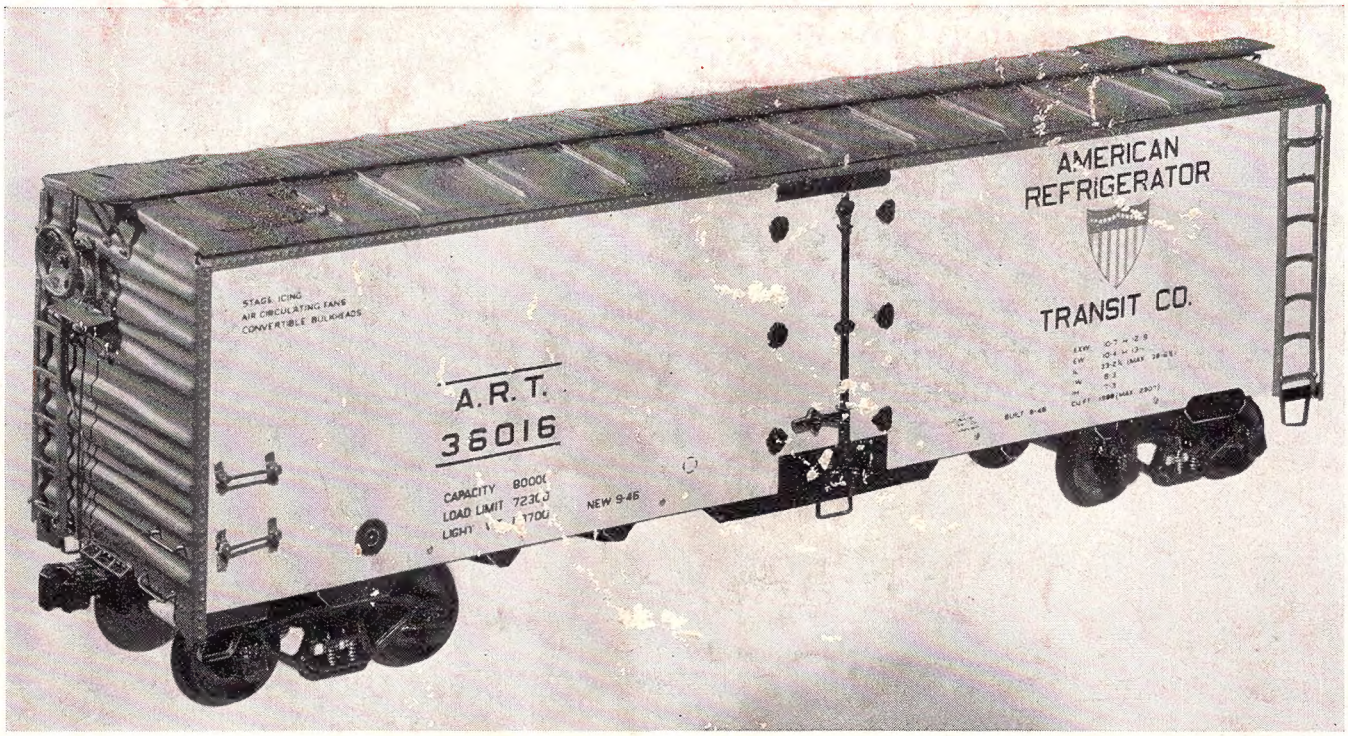

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